Exhibit E West Nile Virus - AF206518

Met 1	Ser	Lys	Lys	Pro 5	Gly	Gly	Pro	Gly	Lys 10	Ser	Arg	Ala	Val	Asn 15	Met
Leu	Lys	Arg	Gly 20	Met	Pro	Arg	Val	Leu 25	Ser	Leu	Ile	Gly	Leu 30	Lys	Arg
Ala	Met	Leu 35	Ser	Leu	Ile	Asp	Gly 40	Lys	Gly	Pro	Ile	Arg 45	Phe	Val	Leu
Ala	Leu 50		Ala	Phe	Phe	Arg 55		Thr	Ala	Ile	Ala 60		Thr	Arg	Ala
Val		Asp	Arg	Trp	Arg		Val	Asn	Lys	Gln		Ala	Met	Lys	His
65		_	_	-	70	_			_	75				-	80
Leu	Leu	Ser	Phe	Lys 85	Lys	Glu	Leu	Gly	Thr 90	Leu	Thr	Ser	Ala	Ile 95	Asn
Arg	Arg	Ser	Ser 100	Lys	Gln	Lys	Lys	Arg 105	Gly	Gly	Lys	Thr	Gly 110	Ile	Ala
Val	Met	Ile 115	Gly	Leu	Ile	Ala	Ser 120	Val	Gly	Ala	Val	Thr 125	Leu	Ser	Asn
Phe	Gln 130	Gly	Lys	Val	Met	Met 135	Thr	Val	Asn	Ala	Thr 140	Asp	Val	Thr	Asp
Val 145	Ile	Thr	Ile	Pro	Thr 150	Ala	Ala	Gly	Lys	Asn 155	Leu	Cys	Ile	Val	Arg 160
	Met	Asp	Val	Gly 165		Met	Сув	Asp	Asp 170		Ile	Thr	Tyr	Glu 175	
Pro	Val	Leu	Ser 180		Gly	Asn	Asp	Pro 185		Asp	Ile	Asp	Cys 190		Cys
Thr	Lys	Ser	Ala	Val	Tyr	Val	Arq		Gly	Arq	Cys	Thr		Thr	Arq
	_	195			_		200	_	_		-	205	_		
His	Ser 210	Arg	Arg	Ser	Arg	Arg 215	Ser	Leu	Thr	Val	Gln 220	Thr	His	Gly	Glu
Ser 225	Thr	Leu	Ala	Asn	Lуs 230	Lys	Gly	Ala	Trp	Met 235	Asp	Ser	Thr	Lys	Ala 240
Thr	Arg	Tyr	Leu	Val 245	Lys	Thr	Glu	Ser	Trp 250	Ile	Leu	Arg	Asn	Pro 255	Gly
Tyr	Ala	Leu	Val 260	Ala	Ala	Val	Ile	Gly 265	Trp	Met	Leu	Gly	Ser 270	Asn	Thr
Met	Gln	Arg 275	Val	Val	Phe	Val	Val 280	Leu	Leu	Leu	Leu	Val 285	Ala	Pro	Ala
Tyr	Ser 290		Asn	Cys	Leu	Gly 295		Ser	Asn	Arg	Asp		Leu	Glu	Gly
Val		Gly	Ala	Thr	Trp		Asp	Leu	Val	Leu		Gly	Asp	Ser	Cys
305				_	310	_		_		315	_		_		320
val	Thr	тте	Met	Ser 325	гЛа	Asp	гля	Pro	Thr 330	He	Asp	Val	Lys	Met	Met
Asn	Met	Glu	Ala 340		Asn	Leu	Ala	Glu 345		Arg	Ser	Tyr	Cys 350		Leu
Ala	Thr			Asp	Leu	Ser			Ala	Ala	Cys			Met	Gly
Glu		355 His	Asn	Asp	Lys		360 Ala	Asp	Pro	Ala		365 Val	Cys	Arg	Gln
Gly	370 Val	Val	Asp	Arq	Gly	375 Trp	Gly	Asn	Gly	Cys	380 Gly	LEU	Phe	Gly	Lvs
385					390					395				-	400
Gly	Ser	Ile	Asp	Thr 405	Cys	Ala	Lys	Phe	Ala 410	Cys	Ser	Thr	Lys	Ala 415	Ile
Gly	Arg	Thr	Ile 420	Leu	Lys	Glu	Asn	Ile 425	Lys	Tyr	Glu	Val	Ala 430	Ile	Phe

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Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Ser Thr Gln
                           440
       435
Val Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                       455
                                           460
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                   470
                                       475
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                                   490
                485
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                               505
           500
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                           520
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                                           540
                        535
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                   550
                                       555
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                                  570
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
                              585
           580
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
                                    605 l
                         600
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                                           620
                        615
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                                        635
                    630
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Met Ala Thr
                                    650
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
            660
                                665
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                           680
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Leu Lys Gly
                                            700
                       695
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
                                       715
                    710
Val Gly Gly Val Phe Thr Ser Val Gly LYS Ala Val His Gln Val Phe
                                   730
               725
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                               745
Gly Leu Leu Gly Ala Leu Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                            760
                                                765
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Gly Val Leu Leu Phe
                                            780
                        775
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                                        795
                   790
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
               805
                                   810
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
                                825
                                                   830
           820
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                           840
                                                845
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ala Val Lys Asp
                                            860
                        855
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
                    870
                                        875
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
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				885					890					895	
Ala	Thr	Thr	Glu 900	Lys	Leu	Glu	Ile	Gly 905	Trp	Lys	Ala	Trp	Gly 910	Lys	Ser
Ile	Leu	Phe 915	Ala	Pro	Glu	Leu	Ala 920	Asn	Asn	Thr	Phe	Val 925	Val	Asp	Gly
Pro	Glu 930	Thr	Lys	Glu	Cys	Pro 935	Thr	Gln	Asn	Arg	Ala 940	Trp	Asn	Ser	Leu
Glu 945	Val	Glu	Asp	Phe	Gly 950	Phe	Gly	Leu	Thr	Ser 955	Thr	Arg	Met	Phe	Leu 960
Lys	Val	Arg	Glu	Ser 965	Asn	Thr	Thr	Glu	Cys 970	Asp	Ser	Lys	Ile	Ile 975	Gly
			980					Ile 985					990		
		995					1000					1005	;)		
	1010)	_		_	1015	5	Pro			1020)			
1025	5				1030)		Ile		1035	;)			1	.040
				1045	5				1050)				1055	5
-		•	1060)	_	_		Glu 1065	5	_		_	1070)	
_		1075	5				1080					1085	5		
	1090)				1095	5	Lys			1100)			
110!	5				1110)		Arg		1115	5			1	120
_	-	-		1125	5	_		Gln	1130)				1135	5
			1140)				Asn 1145	5				1150)	
		115	5				1160					1165	5		
_	1170)			Lys	11e 117		Met	Pro	Ala	11e		TTe	Ala	Leu
Leu	Val	Ton							_				_	_	
118.	5				1190) _	Ile	Thr	_	1195	Asp	Val		-	L200
Val	Ile	Leu	Val	Gly 120	1190 Ala) Ala	Ile Phe	Ala	Glu 1210	1195 Ser)	Asp Asn	Val Ser	Gly	Gly 1215	L200 Asp
Val Val	Ile Val	Leu His	Val Leu 1220	Gly 1205 Ala	1190 Ala 5 Leu	Ala Met	Ile Phe Ala	Ala Thr 1225	Glu 1210 Phe	119! Ser) Lys	Asp Asn Ile	Val Ser Gln	Gly Pro 1230	Gly 1215 Val	Asp Department
Val Val Met	Ile Val Val	Leu His Ala 123	Val Leu 1220 Ser 5	Gly 1205 Ala) Phe	1190 Ala Leu Leu	Ala Met Lys	Ile Phe Ala Ala 1240	Ala Thr 1225 Arg	Glu 1210 Phe 5 Trp	1195 Ser) Lys Thr	Asp Asn Ile Asn	Val Ser Gln Gln 1245	Gly Pro 1230 Glu	Gly 1215 Val O Asn	Asp The
Val Val Met Leu	Val Val Leu 1250	Leu His Ala 123 Met	Val Leu 1220 Ser 5 Leu	Gly 1203 Ala) Phe Ala	1190 Ala Leu Leu Ala	Ala Met Lys Val	Phe Ala Ala 1240 Phe	Ala Thr 1225 Arg O Phe	Glu 1210 Phe Trp	1199 Ser) Lys Thr	Asp Asn Ile Asn Ala 1260	Val Ser Gln Gln 1245 Tyr	Gly Pro 1230 Glu His	Gly 1215 Val O Asn	Asp Phe Ile
Val Val Met Leu Arg 126	Val Val Leu 1250 Gln 5	His Ala 1233 Met O Ile	Val Leu 1220 Ser 5 Leu	Gly 1209 Ala) Phe Ala	1190 Ala Deu Leu Ala Trp	Ala Met Lys Val 125! Glu	Phe Ala Ala 1240 Phe 5	Ala Thr 1225 Arg O Phe	Glu 1210 Phe 5 Trp Gln	1195 Ser Lys Thr Met Val 1275	Asp Asn Ile Asn Ala 1260 Leu	Val Ser Gln Gln 1245 Tyr Asn	Gly Pro 1230 Glu His	Gly 1215 Val O Asn Asp	Asp Phe Ile Ala Ala
Val Val Met Leu Arg 126 Val	Val Val Leu 1250 Gln 5 Ala	Leu His Ala 123: Met O Ile	Val Leu 1220 Ser Leu Leu Met	Gly 1209 Ala Phe Ala Leu Ile 128	1190 Ala Leu Leu Ala Trp 1270 Leu	Ala Met Lys Val 1259 Glu Arg	Phe Ala Ala 1240 Phe 5 Ile Ala	Thr 1225 Arg O Phe Pro	Glu 1210 Phe 5 Trp Gln Asp	1195 Ser Lys Thr Met Val 1275 Phe	Asp Asn Ile Asn Ala 1260 Leu Thr	Val Ser Gln Gln 1245 Tyr Asn	Gly Pro 1230 Glu His Ser	Gly 1215 Val O Asn Asp Leu Ser 1295	Ala Ala Ala Ala Asn O
Val Val Leu Arg 126 Val Val	Val Val Leu 1250 Gln 5 Ala Val	Leu His Ala 1233 Met O Ile Trp	Val Leu 1220 Ser Leu Leu Met Pro 1300	Gly 1205 Ala Phe Ala Leu Ile 1285 Leu	1190 Ala Leu Ala Trp 1270 Leu Leu	Ala Met Lys Val 125: Glu Arg	Phe Ala Ala 1240 Phe 5 Ile Ala Leu	Thr 1225 Arg O Phe Pro Ile Leu 1305	Glu 1210 Phe 5 Trp Gln Asp Thr 1290 Thr	1195 Ser Lys Thr Met Val 1275 Phe	Asp Asn Ile Asn Ala 1260 Leu Thr	Val Ser Gln Gln 1245 Tyr Asn Thr	Pro 1230 Glu His Ser Thr	Gly 1215 Val D Asn Asp Leu Ser 1295 Cys D	Ala Ala 1280 Asn Leu
Val Val Met Leu Arg 126 Val Val Asn	Val Val Leu 1250 Gln N Ala Val Leu	Leu His Ala 1233 Met Trp Val Asp 131	Val Leu 1220 Ser Leu Leu Met Pro 1300 Val	Gly 1205 Ala) Phe Ala Leu 1285 Leu) Tyr	1190 Ala Leu Leu Ala Trp 1270 Leu Leu Arg	Ala Met Lys Val 1259 Glu Arg Ala	Phe Ala Ala 1240 Phe 5 Ile Ala Leu Leu 1320	Thr 1225 Arg Phe Pro Ile Leu 1305 Leu	Glu 1210 Phe 5 Trp Gln Asp Thr 1290 Thr 5	1195 Ser Lys Thr Met Val 1275 Phe Pro	Asp Asn Ile Asn Ala 1260 Leu Thr Gly Val	Val Ser Gln Gln 1245 Tyr Asn Thr Leu Gly 1325	Pro 1230 Glu His Ser Thr Arg 1310 Ile	Gly 1215 Val D Asn Asp Leu Ser 1295 Cys O Gly	Ala Ala Ala 1280 Asn Leu Ser

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Leu Leu Cys Leu Ala Leu Ala Ser Thr Gly Leu Phe Asn Pro Met Ile
               1350
                     1355
Leu Ala Ala Gly Leu Ile Ala Cys Asp Pro Asn Arg Lys Arg Gly Trp
                          1370
            1365
                                 1375
Pro Ala Thr Glu Val Met Thr Ala Val Gly Leu Met Phe Ala Ile Val
        1380 1385 1390
Gly Gly Leu Ala Glu Leu Asp Ile Asp Ser Met Ala Ile Pro Met Thr
      1395 1400
                                    1405
Ile Ala Gly Leu Met Phe Ala Ala Phe Val Ile Ser Gly Lys Ser Thr
  1410 1415 1420
Asp Met Trp Ile Glu Arg Thr Ala Asp Ile Ser Trp Glu Ser Asp Ala
1425 1430 1435 1440
Glu Ile Thr Gly Ser Ser Glu Arg Val Asp Val Arg Leu Asp Asp Asp
            1445
                          1450 1455
Gly Asn Phe Gln Leu Met Asn Asp Pro Gly Ala Pro Trp Lys Ile Trp
         1460
                       1465
                                       1470
Met Leu Arg Met Val Cys Leu Ala Ile Ser Ala Tyr Thr Pro Trp Ala
                                    1485
                    1480
     1475
Ile Leu Pro Ser Val Val Gly Phe Trp Ile Thr Leu Gln Tyr Thr Lys
  1490 1495
                                1500
Arg Gly Gly Val Leu Trp Asp Thr Pro Ser Pro Lys Glu Tyr Lys Lys
1505 1510 1515 1520
Gly Asp Thr Thr Thr Gly Val Tyr Arg Ile Met Thr Arg Gly Leu Leu
           1525 1530 1535
Gly Ser Tyr Gln Ala Gly Ala Gly Val Met Val Glu Gly Val Phe His
        1540 1545 1550
Thr Leu Trp His Thr Thr Lys Gly Ala Ala Leu Met Ser Gly Glu Gly
      1555 1560
Arg Leu Asp Pro Tyr Trp Gly Ser Val Lys Glu Asp Arg Leu Cys Tyr
   1570 1575
                                 1580
Gly Gly Pro Trp Lys Leu Gln His Lys Trp Asn Gly Gln Asp Glu Val
    1590 1595 1600
Gln Met Ile Val Val Glu Pro Gly Lys Asn Val Lys Asn Val Gln Thr
            1605 1610
Lys Pro Gly Val Phe Lys Thr Pro Glu Gly Glu Ile Gly Ala Val Thr
         1620 1625
                                       1630
Leu Asp Phe Pro Thr Gly Thr Ser Gly Ser Pro Ile Val Asp Lys Asn
     1635
                                    1645
                    1640
Gly Asp Val Ile Gly Leu Tyr Gly Asn Gly Val Ile Met Pro Asn Gly
   1650 1655
                                 1660
Ser Tyr Ile Ser Ala Ile Val Gln Gly Glu Arg Met Asp Glu Pro Ile
                              1675
               1670
Pro Ala Gly Phe Glu Pro Glu Met Leu Arg Lys Lys Gln Ile Thr Val
                           1690
            1685
Leu Asp Leu His Pro Gly Ala Gly Lys Thr Arg Arg Ile Leu Pro Gln
                       1705
        1700
                                       1710
Ile Ile Lys Glu Ala Ile Asn Arg Arg Leu Arg Thr Ala Val Leu Ala
     1715
                    1720
                                    1725
Pro Thr Arg Val Val Ala Ala Glu Met Ala Glu Ala Leu Arg Gly Leu
   1730 1735 1740
Pro Ile Arg Tyr Gln Thr Ser Ala Val Pro Arg Glu His Asn Gly Asn
1745 1750 1755 1760
Glu Ile Val Asp Val Met Cys His Ala Thr Leu Thr His Arg Leu Met
                           1770 1775
            1765
Ser Pro His Arg Val Pro Asn Tyr Asn Leu Phe Val Met Asp Glu Ala
                        1785
         1780
His Phe Thr Asp Pro Ala Ser Ile Ala Ala Arg Gly Tyr Ile Ser Thr
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	1795	5				1800)				1805	,		
Lys Va. 18		Leu	Gly	Glu	Ala 1815		Ala	Ile	Phe	Met 1820		Ala	Thr	Pro
Pro Gl; 1825	-		_	1830)				1835	5			1	840
Leu Gl			1845	5				1850)				1855	5
Ile Th		1860)				1865	j				1870)	
Met Gl	1875	5				1880)				1885	<u>;</u>		
Val Gl	90			-	1895	5				1900)			
Asn As 1905	-			1910)				1915	5			1	1920
Ala As		_	1925	5	_			1930)				1935	5
Pro Th		1940)				1945	5				1950)	
Ser Al	1955	5				1960)		_	_	1965	5		
Arg As	70				1975	5		_		1980)			
Asn Gl 1985	_			1990)				1995	5			2	2000
Leu As	~		2005	5				2010)				2015	5
Pro Gl	_	2020)				2025	5				2030)	
Gly Gl	203	5	_			2040)				2045	5		
	50			_	205	5				2060)			
Asp Ar 2065	-		_	2070)				2075	5			4	2080
Asp As			208	5				209)				209	5
Leu Ar		2100)				2105	5				2110)	
Leu Ly	211	5				2120)				2125	5		
	.30				213	5				2140)			
Trp Gl 2145				2150)				215	5			:	2160
Gly Ar			216	5				217	0				217	5
Thr Il		218	0				218	5				219	С	
Phe Le	219	5				2200	0				220	5		
	10	_			221	5				222	0			
Gly Th 2225				223	0				223	5				2240
Val Le	eu Ile	Pro	Glu 224		GLu	ьуs	GIn	Arg 225		GIn	Tnr	Asp	225	

Leu Ala Val Phe Leu Ile Cys Val Met Thr Leu Val Ser Ala Val Ala 2265 2270 2260 Ala Asn Glu Met Gly Trp Leu Asp Lys Thr Lys Ser Asp Ile Ser Ser 2275 2280 2285 Leu Phe Gly Gln Arg Ile Glu Val Lys Glu Asn Phe Ser Met Gly Glu 2295 Phe Leu Leu Asp Leu Arg Pro Ala Thr Ala Trp Ser Leu Tyr Ala Val 2305 2310 2315 2320 Thr Thr Ala Val Leu Thr Pro Leu Leu Lys His Leu Ile Thr Ser Asp 2325 2330 2335 Tyr Ile Asn Thr Ser Leu Thr Ser Ile Asn Val Gln Ala Ser Ala Leu 2340 2345 Phe Thr Leu Ala Arg Gly Phe Pro Phe Val Asp Val Gly Val Ser Ala 2365 2355 2360 Leu Leu Leu Ala Ala Gly Cys Trp Gly Gln Val Thr Leu Thr Val Thr 2375 2380 Val Thr Ala Ala Thr Leu Leu Phe Cys His Tyr Ala Tyr Met Val Pro 2385 2390 2395 Gly Trp Gln Ala Glu Ala Met Arg Ser Ala Gln Arg Arg Thr Ala Ala 2410 2405 Gly Ile Met Lys Asn Ala Val Val Asp Gly Ile Val Ala Thr Asp Val 2420 2425 2430 Pro Glu Leu Glu Arg Thr Thr Pro Ile Met Gln Lys Lys Val Gly Gln 2435 2440 2445 Ile Met Leu Ile Leu Val Ser Leu Ala Ala Val Val Asn Pro Ser 2460 2455 Val Lys Thr Val Arg Glu Ala Gly Ile Leu Ile Thr Ala Ala Ala Val 2470 2475 Thr Leu Trp Glu Asn Gly Ala Ser Ser Val Trp Asn Ala Thr Thr Ala 2485 2490 Ile Gly Leu Cys His Ile Met Arg Gly Gly Trp Leu Ser Cys Leu Ser 2500 2505 2510 Ile Thr Trp Thr Leu Ile Lys Asn Met Glu Lys Pro Gly Leu Lys Arg 2515 2520 2525 Gly Gly Ala Lys Gly Arg Thr Leu Gly Glu Val Trp Lys Glu Arg Leu 2530 2535 2540 Asn Gln Met Thr Lys Glu Glu Phe Thr Arg Tyr Arg Lys Glu Ala Ile 2550 2555 Ile Glu Val Asp Arg Ser Ala Ala Lys His Ala Arg Lys Glu Gly Asn 2565 2570 Val Thr Gly Gly His Pro Val Ser Arg Gly Thr Ala Lys Leu Arg Trp 2580 2585 2590 Leu Val Glu Arg Arg Phe Leu Glu Pro Val Gly Lys Val Ile Asp Leu 2600 2605 Gly Cys Gly Arg Gly Gly Trp Cys Tyr Tyr Met Ala Thr Gln Lys Arg 2615 2620 Val Gln Glu Val Arg Gly Tyr Thr Lys Gly Gly Pro Gly His Glu Glu 2630 2635 2640 Pro Gln Leu Val Gln Ser Tyr Gly Trp Asn Ile Val Thr Met Lys Ser 2645 2650 2655 Gly Val Asp Val Phe Tyr Arg Pro Ser Glu Cys Cys Asp Thr Leu Leu 2670 2660 2665 Cys Asp Ile Gly Glu Ser Ser Ser Ser Ala Glu Val Glu Glu His Arg 2680 2675 Thr Ile Arg Val Leu Glu Met Val Glu Asp Trp Leu His Arg Gly Pro 2695 2700 Arg Glu Phe Cys Val Lys Val Leu Cys Pro Tyr Met Pro Lys Val Ile

2705	2	2710				2715				2	720
Glu Lys Met			Ara	Ara	Tvr			Glv	Leu		
Cra Lyb nec	2725		9	9	2730			J J		2735	
Asn Pro Leu	Ser Arg A 2740	sn Ser		His 2745		Met	Tyr	Trp	Val 2750		Arg
Ala Ser Gly 2755			Ser 2760		Asn	Met	Thr	Ser 2765		Val	Leu
Leu Gly Arg 2770	Met Glu I	ys Arg 2775		Trp	Lys	Gly	Pro 2780		Tyr	Glu	Glu
Asp Val Asn 2785	_ 2	790		-		2795	_			2	800
Asn Ser Asp	2805		_		2810)				2815	, ,
Glu Tyr Ser	2820			2825	5				2830)	
Trp Asn Tyr 2835	5	-	2840)				2845	<u>, </u>		
Ser Leu Val 2850	_	2855		•			2860)			
Ile Thr Asn 2865	2	2870				2875	i			2	880
Gln Gln Arg	2885		_		2890)				2895	5
Pro Glu Gly	2900	-		2905	5				2910)	
Ala Phe Leu 2915	5	_	2920)				2925	5		
Phe Ile Arg 2930	_	2935	j				2940)			
Glu Gln Asn 2945	_ 2	2950		_		2955	,			2	2960
Phe Trp Glu	2965	_		_	2970)				2975	5
Cys His Thr	2980	_		2985	5		_		2990)	
Gly Glu Phe 2995	5	_	3000)				3005	5		
	-	3015	j				3020)			
Asp His Trp 3025		3030				3035	; ;			3	3040
Gly Leu Gln	3045				3050)				3055	5
Gly Gly Lys	3060			3065	5				3070)	
Thr Arg Ala 3075	5		3080)				3085	5		
Gly Glu His 3090		3095	5				3100)			
His Lys Val		3110				3115	5			3	3120
Met Asp Val	3125				3130)				3135	5
Thr Tyr Ala	3140			314	5				3150)	
Met Met Glu 315		Gly Val	Ile 3160		Pro	Asp	Asp	Val 316		ьуs	Leu

Thr Lys Gly Lys Gly Pro Lys Val Arg Thr Trp Leu Phe Glu Asn Gly 3170 3175 3180 Glu Glu Arg Leu Ser Arg Met Ala Val Ser Gly Asp Asp Cys Val Val 3190 3195 Lys Pro Leu Asp Asp Arg Phe Ala Thr Ser Leu His Phe Leu Asn Ala 3210 3215 Met Ser Lys Val Arg Lys Asp Ile Gln Glu Trp Lys Pro Ser Thr Gly 3220 3225 3230 Trp Tyr Asp Trp Gln Gln Val Pro Phe Cys Ser Asn His Phe Thr Glu 3235 3240 3245 Leu Ile Met Lys Asp Gly Arg Thr Leu Val Val Pro Cys Arg Gly Gln 3255 3260 Asp Glu Leu Val Gly Arg Ala Arg Ile Ser Pro Gly Ala Gly Trp Asn 3270 3275 Val Arg Asp Thr Ala Cys Leu Ala Lys Ser Tyr Ala Gln Met Trp Leu 3285 3290 3295 Leu Leu Tyr Phe His Arg Arg Asp Leu Arg Leu Met Ala Asn Ala Ile 3305 3310 3300 Cys Ser Ala Val Pro Val Asn Trp Val Pro Thr Gly Arg Thr Thr Trp 3320 Ser Ile His Ala Gly Gly Glu Trp Met Thr Thr Glu Asp Met Leu Glu 3340 3335 Val Trp Asn Arg Val Trp Ile Glu Glu Asn Glu Trp Met Glu Asp Lys 3350 3355 3360 Thr Pro Val Glu Lys Trp Ser Asp Val Pro Tyr Ser Gly Lys Arg Glu 3365 3370 3375 Asp Ile Trp Cys Gly Ser Leu Ile Gly Thr Arg Ala Arg Ala Thr Trp 3380 3385 Ala Glu Asn Ile Gln Val Ala Ile Asn Gln Val Arg Ala Ile Ile Gly 3400 3395 Asp Glu Lys Tyr Val Asp Tyr Met Ser Ser Leu Lys Arg Tyr Glu Asp 3415 Thr Thr Leu Val Glu Asp Thr Val Leu 3430

West Nile Virus - AF260967

Met Ser Lys Lys Pro Gly Gly Pro Gly Lys Ser Arg Ala Val Asn Met 10 Leu Lys Arg Gly Met Pro Arg Val Leu Ser Leu Ile Gly Leu Lys Arg 20 25 Ala Met Leu Ser Leu Ile Asp Gly Lys Gly Pro Ile Arg Phe Val Leu 40 Ala Leu Leu Ala Phe Phe Arg Phe Thr Ala Ile Ala Pro Thr Arg Ala 55 60 Val Leu Asp Arg Trp Arg Gly Val Asn Lys Gln Thr Ala Met Lys His 70 75 Leu Leu Ser Phe Lys Lys Glu Leu Gly Thr Leu Thr Ser Ala Ile Asn 90 Arg Arg Ser Ser Lys Gln Lys Lys Arg Gly Gly Lys Thr Gly Ile Ala 100 105 110 Val Met Ile Gly Leu Ile Ala Ser Val Gly Ala Val Thr Leu Ser Asn 120 Phe Gln Gly Lys Val Met Met Thr Val Asn Ala Thr Asp Val Thr Asp 135 140 Val Ile Thr Ile Pro Thr Ala Ala Gly Lys Asn Leu Cys Ile Val Arg

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150
                                        155
Ala Met Asp Val Gly Tyr Met Cys Asp Asp Thr Ile Thr Tyr Glu Cys
               165
                                    170
Pro Val Leu Ser Ala Gly Asn Asp Pro Glu Asp Ile Asp Cys Trp Cys
                               185
           180
Thr Lys Ser Ala Val Tyr Val Arg Tyr Gly Arg Cys Thr Lys Thr Arg
                           200
His Ser Arg Arg Ser Arg Ser Leu Thr Val Gln Thr His Gly Glu
                       215
                                            220
Ser Thr Leu Ala Asn Lys Lys Gly Ala Trp Met Asp Ser Thr Lys Ala
                   230
                                       235
Thr Arg Tyr Leu Val Lys Thr Glu Ser Trp Ile Leu Arg Asn Pro Gly
                                   250
Tyr Ala Leu Val Ala Ala Val Ile Gly Trp Met Leu Gly Ser Asn Thr
                                265
Met Gln Arg Val Val Phe Val Val Leu Leu Leu Val Ala Pro Ala
        275
                            280
Tyr Ser Phe Asn Cys Leu Gly Met Ser Asn Arg Asp Phe Leu Glu Gly
                       295
                                           300
Val Ser Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys
                   310
                                        315
Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val Lys Met Met
                                    330
                325
Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr Cys Tyr Leu
           340
                               345
Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro Thr Met Gly
                            360
Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val Cys Arg Gln
                        375
                                            380 -
Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly LEU Phe Gly Lys
                    390
                                        395
Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr Lys Ala Ile
               405
                                   410
Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val Ala Ile Phe
                                425
           420
Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Ser Thr Gln
                            440
Val Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                        455
                                           460
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                    470
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                                    490
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                                505
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                            520
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                        535
                                            540
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                    550
                                        555
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                565
                                    570
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
                                585
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
                                                605 L
        595
                            600
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Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                        615
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                   630
                                       635
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
                                   650
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
           660
                               665
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                           680
                                               685
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Leu Lys Gly
                       695
                                           700
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
                   710
                                       715
Val Gly Gly Val Phe Thr Ser Val Gly LYS Ala Val His Gln Val Phe
                                   730
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                               745
Gly Leu Leu Gly Ala Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                           760
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Val Leu Leu Phe
                                           780
                       775
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                   790
                                       795
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
               805
                                   810
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
                               825
           820
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                           840
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ala Val Lys Asp
                       855
                                           860
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
                   870
                                       875
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
               885
                                   890
Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
                               905
            900
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                           920
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                        935
                                           940
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
                    950
                                        955
Lys Val Arg Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
               965
                                   970
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                               985
Ile Glu Ser Arg Leu Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
                           1000
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
                       1015
                                          1020
Asp Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
                   1030
                                       1035
Pro Arg Ser Asn His Asn Arg Pro Gly Tyr Lys Thr Gln Asn Gln
                                    1050
                1045
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
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			1060					1065	-				1070	`	
G1	m1	m)			T	0	G 3	1065		Q1	77.5 -	70			73 -
	Thr	1075	5				1080)				1085	<u> </u>		
Thr	Arg 1090		Thr	Thr	Glu	Ser 1095		Lys	Leu	Ile	Thr 1100		Trp	Cys	Cys
Δrα	Ser		ጥኮዮ	T.011	Pro			Δra	ጥላንን	Gln			Ser	Glv	Cvs
110		Cys	1111	пси	1110		neu	ran 9	+ <u>y</u> +	1115		risp	DCI		120
	Tyr	Glv	Met	G] 11			Pro	Gln	Δra			Glu	T.375		
	_	_		1125	5	_			1130)				1135	5
Val	Gln	Ser	Gln 1140		Asn	Ala	Tyr	Asn 1145		Asp	Met	Ile	Asp 1150		Phe
Gln	Leu	Gly 1155		Leu	Val	Val	Phe 1160		Ala	Thr	Gln	Glu 1165		Leu	Arg
Lys	Arg 1170	Trp		Ala	Lys	Ile 1175	Ser		Pro	Ala	Ile 1180	Leu		Ala	Leu
Т о			Y7-3	Dh a	C1			mb	m	mb w			т от	7\ ~~ ~~	П. т.
118					1190)				1195	5			1	L200
Val	Ile	Leu	Val	Gly 1205		Ala	Phe		Glu 1210		Asn	Ser	Gly	Gly 1215	_
Val	Val	His	Leu 1220		Leu	Met	Ala	Thr 1225		Lys	Ile	Gln	Pro 1230		Phe
Met	Val	Ala 1235	Ser		Leu	Lys	Ala 1240	Arg		Thr	Asn	Gln 1245	Glu		Ile
T 011	T		-	ח ז ה	7.7.	7.7.			C1-	Mot	71.7			7\ ~~	7\ 7\ ~
	Leu 1250)				1255	5				1260)			
Arg 126	Gln 5	Ile	Leu	Leu	Trp 1270		Ile	Pro	Asp		Leu 5		Ser		Ala L280
Val	Ala	Trp	Met	Ile 1285		Arg	Ala	Ile	Thr 1290		Thr	Thr	Thr	Ser 1295	
Val	Val	Val	Pro 1300	Leu		Ala		Leu 1305	Thr		Gly	Leu	Arg 1310	Cys	
Asn	Leu	_	Val		Arg		Leu	Leu		Met	Val	Gly 1325	Ile		Ser
T	T1 -	1315		T	7\	0	1320		71.7 _	T	T			7\ 7\ -	C
	Ile 1330)		_	_	1335	5			_	1340)			
	Leu	Cys	Leu	Ala			Ser	Thr	Gly			Asn	Pro		
134					1350					135					1360
Leu	Ala														Trp 5
Pro	Ala	Thr	Glu 1380		Met	Thr	Ala	Val 1385		Leu	Met	Phe	Ala 1390	_	Val
Gly	Gly	Leu 139!	Ala		Leu	Asp	Ile 140	Asp		Met	Ala	Ile 1405	Pro		Thr
Ile	Ala	Gly		Met	Phe		Ala		Val	Ile		Gly		Ser	Thr
7. ~~	141		т1.	C1	7\ ~~ ~	141		7\ ~~~	т1.	C 0 22	1420		Com	7) a.s.	7. 7. 7.
142					1430)				143	5			:	1440
Glu	Ile	Thr	Gly	Ser 1445		Glu	Arg	Val	Asp 145		Arg	Leu	Asp	Asp 1455	
Gly	Asn	Phe	Gln 1460		Met	Asn	Asp	Pro 146		Ala	Pro	Trp	Lys 1470		Trp
Met	Leu	Arg 147	Met		Cys	Leu	Ala 148	Ile		Ala	Tyr	Thr 1485	Pro		Ala
Ile	Leu	Pro		Val	Val	_	Phe		Ile	Thr		Gln		Thr	Lys
70	149		77-7	т	FT1	149		D	0	D	1500		m	T	T
Arg 150	Gly 5	стХ	val	ьeu	151		rnr	Pro	ser	Pro 151		GLU	ıyr		Lys 1520

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Gly Asp Thr Thr Gly Val Tyr Arg Ile Met Thr Arg Gly Leu Leu
            1525
                            1530
Gly Ser Tyr Gln Ala Gly Ala Gly Val Met Val Glu Gly Val Phe His
                                        1550
        1540
                        1545
Thr Leu Trp His Thr Thr Lys Gly Ala Ala Leu Met Ser Gly Glu Gly
      1555 1560 1565
Arg Leu Asp Pro Tyr Trp Gly Ser Val Lys Glu Asp Arg Leu Cys Tyr
   1570 1575
                                  1580
Gly Gly Pro Trp Lys Leu Gln His Lys Trp Asn Gly Gln Asp Glu Val
1585 1590 1595 1600
Gln Met Ile Val Val Glu Pro Gly Lys Asn Val Lys Asn Val Gln Thr
            1605 1610 1615
Lys Pro Gly Val Phe Lys Thr Pro Glu Gly Glu Ile Gly Ala Val Thr
         1620
                         1625
Leu Asp Phe Pro Thr Gly Thr Ser Gly Ser Pro Ile Val Asp Lys Asn
                      1640
Gly Asp Val Ile Gly Leu Tyr Gly Asn Gly Val Ile Met Pro Asn Gly
         1655
                                  1660
Ser Tyr Ile Ser Ala Ile Val Gln Gly Glu Arg Met Asp Glu Pro Ile
                     1675 1680
1665 1670
Pro Ala Gly Phe Glu Pro Glu Met Leu Arg Lys Lys Gln Ile Thr Val
    1685 1690 1695
Leu Asp Leu His Pro Gly Ala Gly Lys Thr Arg Arg Ile Leu Pro Gln
   1700 1705 1710
Ile Ile Lys Glu Ala Ile Asn Arg Arg Leu Arg Thr Ala Val Leu Ala
          1720 1725
Pro Thr Arg Val Val Ala Ala Glu Met Ala Glu Ala Leu Arg Gly Leu
                  1735
                                  1740
Pro Ile Arg Tyr Gln Thr Ser Ala Val Pro Arg Glu His Asn Gly Asn
               1750 1755
Glu Ile Val Asp Val Met Cys His Ala Thr Leu Thr His Arg Leu Met
           1765 1770 1775
Ser Pro His Arg Val Pro Asn Tyr Asn Leu Phe Val Met Asp Glu Ala
         1780 1785
His Phe Thr Asp Pro Ala Ser Ile Ala Ala Arg Gly Tyr Ile Ser Thr
      1795 1800 1805
Lys Val Glu Leu Gly Glu Ala Ala Ala Ile Phe Met Thr Ala Thr Pro
   1810 1815 1820
Pro Gly Thr Ser Asp Pro Phe Pro Glu Ser Asn Ser Pro Ile Ser Asp
               1830 1835 1840
Leu Gln Thr Glu Ile Pro Asp Arg Ala Trp Asn Ser Gly Tyr Glu Trp
            1845
                            1850
                                            1855
Ile Thr Glu Tyr Thr Gly Lys Thr Val Trp Phe Val Pro Ser Val Lys
         1860
                         1865
Met Gly Asn Glu Ile Ala Leu Cys Leu Gln Arg Ala Gly Lys Lys Val
                     1880
                                     1885
Val Gln Leu Asn Arg Lys Ser Tyr Glu Thr Glu Tyr Pro Lys Cys Lys
                  1895 1900
Asn Asp Asp Trp Asp Phe Val Ile Thr Thr Asp Ile Ser Glu Met Gly
1905 1910 1915 1920
Ala Asn Phe Lys Ala Ser Arg Val Ile Asp Ser Arg Lys Ser Val Lys
                            1930
            1925
Pro Thr Ile Ile Thr Glu Gly Glu Gly Arg Val Ile Leu Gly Glu Pro
                         1945
Ser Ala Val Thr Ala Ala Ser Ala Ala Gln Arg Arg Gly Arg Ile Gly
                      1960
                                      1965
Arg Asn Pro Ser Gln Val Gly Asp Glu Tyr Cys Tyr Gly Gly His Thr
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	1970)				1975	5				1980)			
1985	5		Asp		1990)				1995	5			2	2000
Leu	Asp	Asn	Ile	Asn 2005		Pro	Asn	Gly	Leu 2010		Ala	Gln	Phe	Tyr 2015	
			Glu 2020)		_		2025	5	_			2030)	
		2035					2040)				2045	5		
	2050)	Leu			2055	5				2060)			
2065	5		Trp		2070)				2075	5			2	2080
_			Glu	2085	5				2090)	-			2095	5
			Arg 2100)				2105	5				2110)	
		2115					2120)				2125	5		
	2130)	Val		-	2135	5				2140)	-	_	
2145	5		Leu		2150)				2155	5			2	2160
-			His	2165	5				2170)				2175	5
			Leu 2180)				2185	5				2190)	
		2195			_		2200)				220	5		
	2210)	Gly			2215	5				2220)			
2225	5		Ile		2230)				223	5			2	2240
			Pro	2245	5				2250)				2255	5
			Phe 2260)				226	5				2270)	
		2275	Met		_		2280) _		_		228	5		
	229)	Gln			229	5				2300)			
230	5		Asp		2310)				231	5			2	2320
			Val	232	5				2330)				233	5
-			Thr 2340)				234	5				2350)	
		235					2360	0				236	5		
	237	0	Ala			237	5				238	0			
Va⊥ 238		А1а	Ala	Thr	Leu 2390		Phe	Cys	Hls	Tyr 239		Tyr	Met		2400
		Gln	Ala	Glu 240		Met	Arg	Ser	Ala 241	Gln		Arg	Thr	Ala 241	
Gly	Ile	Met	Lys 242		Ala	Val	Val	Asp 242	_	Ile	Val	Ala	Thr 2430		Val

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Pro Glu Leu Glu Arg Ala Thr Pro Ile Met Gln Lys Lys Val Gly Gln
      2435
                     2440
                                     2445
Ile Met Leu Ile Leu Val Ser Leu Ala Ala Val Val Asn Pro Ser
                                 2460
   2450
                  2455
Val Lys Thr Val Arg Glu Ala Gly Ile Leu Ile Thr Ala Ala Ala Val
2465 2470 2475 2480
Thr Leu Trp Glu Asn Gly Ala Ser Ser Val Trp Asn Ala Thr Thr Ala
           2485 2490
Ile Gly Leu Cys His Ile Met Arg Gly Gly Trp Leu Ser Cys Leu Ser
      2500 2505 2510
Ile Thr Trp Thr Leu Ile Lys Asn Met Glu Lys Pro Gly Leu Lys Arg
      2515 2520
                                    2525
Gly Gly Ala Lys Gly Arg Thr Leu Gly Glu Val Trp Lys Glu Arg Leu
                  2535
                                 2540
Asn Gln Met Thr Lys Glu Glu Phe Thr Arg Tyr Arg Lys Glu Ala Ile
               2550
                               2555
Ile Glu Val Asp Arg Ser Ala Ala Lys His Ala Arg Lys Glu Gly Asn
                 2570
            2565
Val Thr Gly Gly His Pro Val Ser Arg Gly Thr Ala Lys Leu Arg Trp
        2580 2585 2590
Leu Val Glu Arg Arg Phe Leu Glu Pro Val Gly Lys Val Ile Asp Leu
     2595 2600 2605
Gly Cys Gly Arg Gly Gly Trp Cys Tyr Tyr Met Ala Thr Gln Lys Arg
  2610 2615 2620
Val Gln Glu Val Arg Gly Tyr Thr Lys Gly Gly Pro Gly His Glu Glu
2625 2630 2635 2640
Pro Gln Leu Val Gln Ser Tyr Gly Trp Asn Ile Val Thr Met Lys Ser
            2645
                           2650 2655
Gly Val Asp Val Phe Tyr Arg Pro Ser Glu Cys Cys Asp Thr Leu Leu
         2660 2665
Cys Asp Ile Gly Glu Ser Ser Ser Ala Glu Val Glu His Arg
      2675 2680 2685
Thr Ile Arg Val Leu Glu Met Val Glu Asp Trp Leu His Arg Gly Pro
                  2695 2700
Arg Glu Phe Cys Val Lys Val Leu Cys Pro Tyr Met Pro Lys Val Ile
2705 2710 2715 2720
Glu Lys Met Glu Leu Leu Gln Arg Arg Tyr Gly Gly Leu Val Arg
           2725 2730 2735
Asn Pro Leu Ser Arg Asn Ser Thr His Glu Met Tyr Trp Val Ser Arg
         2740 2745 2750
Ala Ser Gly Asn Val Val His Ser Val Asn Met Thr Ser Gln Val Leu
      2755
                     2760
                                     2765
Leu Gly Arg Met Glu Lys Arg Thr Trp Lys Gly Pro Gln Tyr Glu Glu
                  2775
                                  2780
Asp Val Asn Leu Gly Ser Gly Thr Arg Ala Val Gly Lys Pro Leu Leu
               2790
                              2795
Asn Ser Asp Thr Ser Lys Ile Lys Asn Arg Ile Glu Arg Leu Arg Arg
            28.05
                           2810
Glu Tyr Ser Ser Thr Trp His His Asp Glu Asn His Pro Tyr Arg Thr
        2820 2825 2830
Trp Asn Tyr His Gly Ser Tyr Asp Val Lys Pro Thr Gly Ser Ala Ser
     2835 2840 2845 .
Ser Leu Val Asn Gly Val Val Arg Leu Leu Ser Lys Pro Trp Asp Thr
                  2855
                                 2860
Ile Thr Asn Val Thr Thr Met Ala Met Thr Asp Thr Thr Pro Phe Gly
               2870
                               2875
Gln Gln Arq Val Phe Lys Glu Lys Val Asp Thr Lys Ala Pro Glu Pro
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	2885		2890	2895
Pro Glu Gly Val 290		Val Leu Asn 290!		Asn Trp Leu Trp 2910
Ala Phe Leu Ala 2915	Arg Glu I	Lys Arg Pro 2920	Arg Met Cys	Ser Arg Glu Glu 2925
Phe Ile Arg Lys 2930		Ser Asn Ala 2935	Ala Leu Gly 2940	Ala Met Phe Glu
Glu Gln Asn Gln 2945	Trp Arg S 2950	Ser Ala Arg	Glu Ala Val 2955	Glu Asp Pro Lys 2960
Phe Trp Glu Met	Val Asp 6 2965	Glu Glu Arg	Glu Ala His 2970	Leu Arg Gly Glu 2975
Cys His Thr Cys 298		Asn Met Met 298!		Glu Lys Lys Pro 2990
Gly Glu Phe Gly 2995	Lys Ala I	Lys Gly Ser 3000	Arg Ala Ile	Trp Phe Met Trp 3005
Leu Gly Ala Arg 3010		Glu Phe Glu 3015	Ala Leu Gly 3020	Phe Leu Asn Glu
Asp His Trp Leu 3025	Gly Arg I 3030	Lys Asn Ser	Gly Gly Gly 3035	Val Glu Gly Leu 3040
Gly Leu Gln Lys	Leu Gly 1 3045	Tyr Ile Leu	Arg Glu Val 3050	Gly Thr Arg Pro 3055
Gly Gly Lys Ile 306	-	Asp Asp Thr 306		Asp Thr Arg Ile 3070
Thr Arg Ala Asp 3075	Leu Glu A	Asn Glu Ala 3080	Lys Val Leu	Glu Leu Leu Asp 3085
Gly Glu His Arg 3090	-	Ala Arg Ala 3095	Ile Ile Glu 310	Leu Thr Tyr Arg
His Lys Val Val 3105	Lys Val N 3110	-	Ala Ala Asp 3115	Gly Arg Thr Val 3120
Met Asp Val Ile	Ser Arg (Glu Asp Gln	Arg Gly Ser 3130	Gly Gln Val Val 3135
Thr Tyr Ala Leu 314		Phe Thr Asn 314		Gln Leu Val Arg 3150
				7
Met Met Glu Gly 3155		3160		3165
3155	Gly Pro I	3160		3165 Phe Glu Asn Gly
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185	Gly Pro I Ser Arg N 3190	3160 Lys Val Arg 3175 Met Ala Val	Thr Trp Leu 318 Ser Gly Asp 3195	3165 Phe Glu Asn Gly O Asp Cys Val Val 3200
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185	Gly Pro I Ser Arg N 3190	3160 Lys Val Arg 3175 Met Ala Val	Thr Trp Leu 318 Ser Gly Asp 3195	3165 Phe Glu Asn Gly O Asp Cys Val Val
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185 Lys Pro Leu Asp	Gly Pro I Ser Arg I 3190 Asp Arg I 3205 Arg Lys I	3160 Lys Val Arg 3175 Met Ala Val Phe Ala Thr	Thr Trp Leu 318 Ser Gly Asp 3195 Ser Leu His 3210 Glu Trp Lys	3165 Phe Glu Asn Gly O Asp Cys Val Val 3200 Phe Leu Asn Ala
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185 Lys Pro Leu Asp Met Ser Lys Val	Gly Pro I Ser Arg I 3190 Asp Arg I 3205 Arg Lys I	3160 Lys Val Arg 3175 Met Ala Val Phe Ala Thr Asp Ile Gln 322	Thr Trp Leu 318 Ser Gly Asp 3195 Ser Leu His 3210 Glu Trp Lys 5	3165 Phe Glu Asn Gly O Asp Cys Val Val 3200 Phe Leu Asn Ala 3215 Pro Ser Thr Gly
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185 Lys Pro Leu Asp Met Ser Lys Val 322 Trp Tyr Asp Trp 3235	Gly Pro I Ser Arg N 3190 Asp Arg I 3205 Arg Lys N Gln Gln N Asp Gly N	3160 Lys Val Arg 3175 Met Ala Val Phe Ala Thr Asp Ile Gln 322 Val Pro Phe 3240	Thr Trp Leu 318 Ser Gly Asp 3195 Ser Leu His 3210 Glu Trp Lys 5 Cys Ser Asn	3165 Phe Glu Asn Gly O Asp Cys Val Val 3200 Phe Leu Asn Ala 3215 Pro Ser Thr Gly 3230 His Phe Thr Glu 3245 Cys Arg Gly Gln
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185 Lys Pro Leu Asp Met Ser Lys Val 322 Trp Tyr Asp Trp 3235 Leu Ile Met Lys 3250	Gly Pro I Ser Arg I 3190 Asp Arg I 3205 Arg Lys I Gln Gln I Asp Gly I	3160 Lys Val Arg 3175 Met Ala Val Phe Ala Thr Asp Ile Gln 322 Val Pro Phe 3240 Arg Thr Leu 3255 Ala Arg Ile	Thr Trp Leu 318 Ser Gly Asp 3195 Ser Leu His 3210 Glu Trp Lys Cys Ser Asn Val Val Pro 326	3165 Phe Glu Asn Gly O Asp Cys Val Val 3200 Phe Leu Asn Ala 3215 Pro Ser Thr Gly 3230 His Phe Thr Glu 3245 Cys Arg Gly Gln
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185 Lys Pro Leu Asp Met Ser Lys Val 322 Trp Tyr Asp Trp 3235 Leu Ile Met Lys 3250 Asp Glu Leu Val 3265	Gly Pro I Ser Arg I 3190 Asp Arg I 3205 Arg Lys I 0 Gln Gln I Asp Gly I Gly Arg I 3270	3160 Lys Val Arg 3175 Met Ala Val Phe Ala Thr Asp Ile Gln 322 Val Pro Phe 3240 Arg Thr Leu 3255 Ala Arg Ile	Thr Trp Leu 318 Ser Gly Asp 3195 Ser Leu His 3210 Glu Trp Lys Cys Ser Asn Val Val Pro 326 Ser Pro Gly 3275	3165 Phe Glu Asn Gly Asp Cys Val Val 3200 Phe Leu Asn Ala 3215 Pro Ser Thr Gly 3230 His Phe Thr Glu 3245 Cys Arg Gly Gln Ala Gly Trp Asn
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185 Lys Pro Leu Asp Met Ser Lys Val 322 Trp Tyr Asp Trp 3235 Leu Ile Met Lys 3250 Asp Glu Leu Val 3265 Val Arg Asp Thr	Gly Pro II Ser Arg II 3190 Asp Arg II 3205 Arg Lys II 0 Gln Gln II Asp Gly II Gly Arg II 3270 Ala Cys II 3285 His Arg II	3160 Lys Val Arg 3175 Met Ala Val Phe Ala Thr Asp Ile Gln 322 Val Pro Phe 3240 Arg Thr Leu 3255 Ala Arg Ile Leu Ala Lys	Thr Trp Leu 318 Ser Gly Asp 3195 Ser Leu His 3210 Glu Trp Lys 5 Cys Ser Asn Val Val Pro 326 Ser Pro Gly 3275 Ser Tyr Ala 3290 Arg Leu Met	3165 Phe Glu Asn Gly Asp Cys Val Val 3200 Phe Leu Asn Ala 3215 Pro Ser Thr Gly 3230 His Phe Thr Glu 3245 Cys Arg Gly Gln Ala Gly Trp Asn 3280 Gln Met Trp Leu
3155 Thr Lys Gly Lys 3170 Glu Glu Arg Leu 3185 Lys Pro Leu Asp Met Ser Lys Val 322 Trp Tyr Asp Trp 3235 Leu Ile Met Lys 3250 Asp Glu Leu Val 3265 Val Arg Asp Thr Leu Leu Tyr Phe 330	Gly Pro 1 Ser Arg 1 3190 Asp Arg 1 3205 Arg Lys 1 0 Gln Gln 1 Asp Gly Arg 2 3270 Ala Cys 1 3285 His Arg 1	3160 Lys Val Arg 3175 Met Ala Val Phe Ala Thr Asp Ile Gln 322 Val Pro Phe 3240 Arg Thr Leu 3255 Ala Arg Ile Leu Ala Lys Arg Asp Leu 330	Thr Trp Leu 318 Ser Gly Asp 3195 Ser Leu His 3210 Glu Trp Lys 5 Cys Ser Asn Val Val Pro 326 Ser Pro Gly 3275 Ser Tyr Ala 3290 Arg Leu Met 5	3165 Phe Glu Asn Gly Asp Cys Val Val 3200 Phe Leu Asn Ala 3215 Pro Ser Thr Gly 3230 His Phe Thr Glu 3245 Cys Arg Gly Gln Ala Gly Trp Asn 3280 Gln Met Trp Leu 3295 Ala Asn Ala Ile

Val Trp Asn Arg Val Trp Ile Glu Glu Asn Glu Trp Met Glu Asp Lys Thr Pro Val Glu Lys Trp Ser Asp Val Pro Tyr Ser Gly Lys Arg Glu Asp Ile Trp Cys Gly Ser Leu Ile Gly Thr Arg Ala Arg Ala Thr Trp Ala Glu Asn Ile Gln Val Ala Ile Asn Gln Val Arg Ala Ile Ile Gly Asp Glu Lys Tyr Val Asp Tyr Met Ser Ser Leu Lys Arg Tyr Glu Asp Thr Thr Leu Val Glu Asp Thr Val Leu

West Nile Virus - AF260968

Met Ser Lys Lys Pro Gly Gly Pro Gly Lys Ser Arg Ala Val Asn Met Leu Lys Arg Gly Met Pro Arg Val Leu Ser Leu Ile Gly Leu Lys Arg 2.0 Ala Met Leu Ser Leu Ile Asp Gly Lys Gly Pro Ile Arg Phe Val Leu Ala Leu Leu Ala Phe Phe Arg Phe Thr Ala Ile Ala Pro Thr Arg Ala Val Leu Asp Arg Trp Arg Gly Val Asn Lys Gln Thr Ala Met Lys His Leu Leu Ser Phe Lys Lys Glu Leu Gly Thr Leu Thr Ser Ala Ile Asn Arg Arg Ser Ser Lys Gln Lys Lys Arg Gly Lys Thr Gly Ile Ala Val Met Ile Gly Leu Ile Ala Ser Val Gly Ala Val Thr Leu Ser Asn Phe Gln Gly Lys Val Met Met Thr Val Asn Ala Thr Asp Val Thr Asp Val Ile Thr Ile Pro Thr Ala Ala Gly Lys Asn Leu Cys Ile Val Arg Ala Met Asp Val Gly Tyr Met Cys Asp Asp Thr Ile Thr Tyr Glu Cys Pro Val Leu Ser Ala Gly Asn Asp Pro Glu Asp Ile Asp Cys Trp Cys Thr Lys Ser Ala Val Tyr Val Arg Tyr Gly Arg Cys Thr Lys Thr Arg His Ser Arg Arg Ser Arg Ser Leu Thr Val Gln Thr His Gly Glu Ser Thr Leu Ala Asn Lys Lys Gly Ala Trp Met Asp Ser Thr Lys Ala Thr Arg Tyr Leu Val Lys Thr Glu Ser Trp Ile Leu Arg Asn Pro Gly Tyr Ala Leu Val Ala Ala Val Ile Gly Trp Met Leu Gly Ser Asn Thr Met Gln Arg Val Val Phe Val Val Leu Leu Leu Val Ala Pro Ala Tyr Ser Phe Asn Cys Leu Gly Met Ser Asn Arg Asp Phe Leu Glu Gly Val Ser Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val Lys Met Met

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Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr Cys Tyr Leu
Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro Thr Met Gly
                            360
Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val Cys Lys Gln
                       375
Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly LEU Phe Gly Lys
                    390
                                        395
Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr Lys Ala Thr
               405
                                   410
Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val Ala Ile Phe
                               425
Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Pro Thr Gln
                            440
                                                445
Ile Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                        455
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                                        475
                   470
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                                   490
               485
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                              505
           500
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                           520
                                               525
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                        535
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                    550
                                        555
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                565
                                    570
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
                               585
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
            600
                                               605 L
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                        615
                                           620
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                    630
                                       635
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
                                    650
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
                                665
                                                    670
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                            680
                                                685
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Leu Lys Gly
                        695
                                            700
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
                   710
                                        715
Val Gly Gly Val Phe Thr Ser Val Gly LYS Ala Val His Gln Val Phe 725 730 735
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                               745
           740
Gly Leu Leu Gly Ala Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                            760
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Gly Val Leu Leu Phe
                        775
                                            780
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
```

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795
                  790
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
              805
                                810
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
                            825
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                        840
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ala Val Lys Asp
          855
                                       860
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
     870
                                   875
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
                                890
Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
                                               910
           900
                            905
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                         920
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                    935
                                       940
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
                                   955
                 950
Lys Val Arq Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
                   970
              965
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                            985
          980
Ile Glu Ser Arg Leu Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
                        1000
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
                                       1020
                     1015
Glu Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
                                    1035
                 1030
Pro Arg Ser Asn His Asn Arg Arg Pro Gly Tyr Lys Thr Gln Asn Gln
             1045
                                1050
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
                 1065
          1060
Gly Thr Thr Val Thr Leu Ser Glu Ser Cys Gly His Arg Gly Pro Ala
                        1080 1085
      1075
Thr Arg Thr Thr Glu Ser Gly Lys Leu Ile Thr Asp Trp Cys Cys
                    1095
                                       1100
Arg Ser Cys Thr Leu Pro Pro Leu Arg Tyr Gln Thr Asp Ser Gly Cys
                 1110
                                   1115
Trp Tyr Gly Met Glu Ile Arg Pro Gln Arg His Asp Glu Lys Thr Leu
                                1130 1135
              1125
Val Gln Ser Gln Val Asn Ala Tyr Asn Ala Asp Met Ile Asp Pro Phe
           1140
                            1145
                                               1150
Gln Leu Gly Leu Leu Val Val Phe Leu Ala Thr Gln Glu Val Leu Arg
                         1160
Lys Arg Trp Thr Ala Lys Ile Ser Met Pro Ala Ile Leu Ile Ala Leu
                    1175
                                       1180
Leu Val Leu Val Phe Gly Gly Ile Thr Tyr Thr Asp Val Leu Arg Tyr
                 1190
                                   1195
Val Ile Leu Val Gly Ala Ala Phe Ala Glu Ser Asn Ser Gly Gly Asp
              1205
                                1210
Val Val His Leu Ala Leu Met Ala Thr Phe Lys Ile Gln Pro Val Phe
                             1225
           1220
Met Val Ala Ser Phe Leu Lys Ala Arg Trp Thr Asn Gln Glu Asn Ile
       1235
                         1240
                                           1245
```

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Leu Leu Met Leu Ala Ala Val Phe Phe Gln Met Ala Tyr His Asp Ala
   1250
                   1255
                                    1260
Arg Gln Ile Leu Leu Trp Glu Ile Pro Asp Val Leu Asn Ser Leu Ala
             1270
                                1275
Val Ala Trp Met Ile Leu Arg Ala Ile Thr Phe Thr Thr Ser Asn
                            1290
Val Val Pro Leu Leu Ala Leu Leu Thr Pro Gly Leu Arg Cys Leu
         1300 1305
                                          1310
Asn Leu Asp Val Tyr Arg Ile Leu Leu Leu Met Val Gly Ile Gly Ser
      1315 1320
                                       1325
Leu Ile Arg Glu Lys Arg Ser Ala Ala Ala Lys Lys Gly Ala Ser
   1330 1335
                        1340
Leu Leu Cys Leu Ala Leu Ala Ser Thr Gly Leu Phe Asn Pro Met Ile
                1350
                     1355
Leu Ala Ala Gly Leu Ile Ala Cys Asp Pro Asn Arg Lys Arg Gly Trp
                             1370
                                              1375
             1365
Pro Ala Thr Glu Val Met Thr Ala Val Gly Leu Met Phe Ala Ile Val
                                          1390
         1380
                         1385
Gly Gly Leu Ala Glu Leu Asp Ile Asp Ser Met Ala Ile Pro Met Thr
            1400
Ile Ala Gly Leu Met Phe Ala Ala Phe Val Ile Ser Gly Lys Ser Thr
   1410 1415
                                   1420
Asp Met Trp Ile Glu Arg Thr Ala Asp Ile Ser Trp Glu Ser Asp Ala
      1430 1435
Glu Ile Thr Gly Ser Ser Glu Arg Val Asp Val Arg Leu Asp Asp Asp
                 1450 1455
            1445
Gly Asn Phe Gln Leu Met Asn Asp Pro Gly Ala Pro Trp Lys Ile Trp
         1460 1465
                                          1470
Met Leu Arg Met Ala Cys Leu Ala Ile Ser Ala Tyr Thr Pro Trp Ala
                       1480
                                       1485
      1475
Ile Leu Pro Ser Val Val Gly Phe Trp Ile Thr Leu Gln Tyr Thr Lys
                                   1500
                   1495
Arg Gly Gly Val Leu Trp Asp Thr Pro Ser Pro Lys Glu Tyr Lys Lys
               1510 1515 1520
Gly Asp Thr Thr Gly Val Tyr Arg Ile Met Thr Arg Gly Leu Leu
             1525
                            1530
Gly Ser Tyr Gln Ala Gly Ala Gly Val Met Val Glu Gly Val Phe His
         1540
                         1545 1550
Thr Leu Trp His Thr Thr Lys Gly Ala Ala Leu Met Ser Gly Glu Gly
      1555
                      1560
Arg Leu Asp Pro Tyr Trp Gly Ser Val Lys Glu Asp Arg Leu Cys Tyr
                   1575
                                    1580
Gly Gly Pro Trp Lys Leu Gln His Lys Trp Asn Gly Gln Asp Glu Val
                1590
                                 1595
Gln Met Ile Val Val Glu Pro Gly Lys Asn Val Lys Asn Val Gln Thr
             1605
                             1610
Lys Pro Gly Val Phe Lys Thr Pro Glu Gly Glu Ile Gly Ala Val Thr
         1620
                         1625
Leu Asp Phe Pro Thr Gly Thr Ser Gly Ser Pro Ile Val Asp Lys Asn
             1640 1645
Gly Asp Val Ile Gly Leu Tyr Gly Asn Gly Val Ile Met Pro Asn Gly
   1650 1655
                                   1660
Ser Tyr Ile Ser Ala Ile Val Gln Gly Glu Arg Met Asp Glu Pro Ile
                1670
                                1675
Pro Ala Gly Phe Glu Pro Glu Met Leu Arg Lys Lys Gln Ile Thr Val
             1685
                              1690
Leu Asp Leu His Pro Gly Ala Gly Lys Thr Arg Arg Ile Leu Pro Gln
```

	1700			1705	j				1710)	
Ile Ile Lys 1715		Ile Asn	Arg 1720	_	Leu	Arg	Thr	Ala 1725		Leu	Ala
Pro Thr Arg	Val Val	Ala Ala 173!		Met	Ala	Glu	Ala 1740		Arg	Gly	Leu
Pro Ile Arg 1745	-	Thr Ser 1750	Ala	Val	Pro	Arg 1755		His	Asn		Asn .760
Glu Ile Val	Asp Val 1765		His	Ala	Thr 1770		Thr	His	Arg	Leu 1775	
	1780		_	1785	5				1790)	
His Phe Thr 1795			1800)				1805	5		
Lys Val Glu 1810		181	5				1820)			
Pro Gly Thr 1825		1830				1835	j			1	840
Leu Gln Thr	1845	,			1850)				1855	5
	1860			1865	5				1870)	
Met Gly Asn 1875			1880	C				1885	5		
Val Gln Leu 1890		189	5				1900)			
Asn Asp Asp 1905		1910				1915	5]	1920
Ala Asn Phe	1925	5			1930)				1935	5
	1940			1945	5				1950)	
Ser Ala Val 1955			196	0				1965	5		
Arg Asn Pro 1970		197	5				1980)			
Asn Glu Asp 1985		1990				1995	5			2	2000
Leu Asp Asn	2005	5			2010	0				2015	5
Pro Glu Arg	2020			2025	5				2030)	
Gly Glu Glu 2035)		204	0				2045	5		
Pro Val Trp 2050		205	5				2060)			
Asp Arg Arg 2065		2070				2075	5			2	2080
Asp Asn Asn	2085	5			209	0				209	5
Leu Arg Pro	2100			210	5				211	0	
Leu Lys Ala 2115	5		212	0				212	5		
Leu Ile Glu 2130		213	5				214	0			
Trp Glu Ala 2145	Leu Asp	Thr Met 2150	ryr	val	val	A1a 215		ATS	GTU		GLY 2160

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Gly Arg Ala His Arg Met Ala Leu Glu Glu Leu Pro Asp Ala Leu Gln
              2165
                               2170
Thr Ile Ala Leu Ile Ala Leu Leu Ser Val Met Thr Met Gly Val Phe
                           2185
                                              2190
          2180
Phe Leu Leu Met Gln Arg Lys Gly Ile Gly Lys Ile Gly Leu Gly Gly
                        2200
Val Val Leu Gly Val Ala Thr Phe Phe Cys Trp Met Ala Glu Val Pro
                     2215
                                      2220
Gly Thr Lys Ile Ala Gly Met Leu Leu Leu Ser Leu Leu Met Ile
      2230 2235 2240
Val Leu Ile Pro Glu Pro Glu Lys Gln Arg Ser Gln Thr Asp Asn Gln
              2245
                               2250
Leu Ala Val Phe Leu Ile Cys Val Leu Thr Leu Val Ser Ala Val Ala
                            2265
          2260
Ala Asn Glu Met Gly Trp Leu Asp Lys Thr Lys Asn Asp Ile Ser Ser
                        2280
Leu Phe Gly Gln Arg Ile Glu Ala Lys Glu Asn Phe Ser Met Gly Glu
                                      2300
                    2295
Phe Leu Leu Asp Leu Arg Pro Ala Thr Ala Trp Ser Leu Tyr Ala Val
                                  2315
                2310
Thr Thr Ala Val Leu Thr Pro Leu Leu Lys His Leu Ile Thr Ser Asp
             2325 2330
                                                 2335
Tyr Ile Asn Thr Ser Leu Thr Ser Ile Asn Val Gln Ala Ser Ala Leu
                           2345
                                             2350
          2340
Phe Thr Leu Ala Arg Gly Phe Pro Phe Val Asp Val Gly Val Ser Ala
                        2360
                                          2365
Leu Leu Ala Ala Gly Cys Trp Gly Gln Val Thr Leu Thr Val Thr
                                       2380
                     2375
Val Thr Ala Ala Thr Leu Leu Phe Cys His Tyr Ala Tyr Met Val Pro
                                   2395
                  2390
Gly Trp Gln Ala Glu Ala Met Arg Ser Ala Gln Arg Arg Thr Ala Ala
                               2410
                                                 2415
              2405
Gly Ile Met Lys Asn Ala Val Val Asp Gly Ile Val Ala Thr Asp Val
                           2425
          2420
Pro Glu Leu Glu Arg Thr Thr Pro Ile Met Gln Lys Lys Val Gly Gln
                     2440
                                          2445
Ile Met Leu Ile Leu Val Ser Leu Ala Ala Val Val Asn Pro Ser
                     2455
                                      2460
Val Lys Thr Val Arg Glu Ala Gly Ile Leu Ile Thr Ala Ala Ala Val
2465
                 2470
                                   2475
Thr Leu Trp Glu Asn Gly Ala Ser Ser Val Trp Asn Ala Thr Thr Ala
              2485
                                2490
Ile Gly Leu Cys His Ile Met Arg Gly Gly Trp Leu Ser Cys Leu Ser
           2500
                            2505
                                              2510
Ile Thr Trp Thr Leu Ile Lys Asn Met Glu Lys Pro Gly Leu Lys Arg
                        2520
                                          2525
Gly Gly Ala Lys Gly Arg Thr Leu Gly Glu Val Trp Lys Glu Arg Leu
                     2535
                                      2540
Asn Gln Met Thr Lys Glu Glu Phe Thr Arg Tyr Arg Lys Glu Ala Ile
     2550
                                  2555 2560
Ile Glu Val Asp Arg Ser Ala Ala Lys His Ala Arg Lys Glu Gly Asn
              2565
                   2570
                                                 2575
Val Thr Gly Gly His Pro Val Ser Arg Gly Thr Ala Lys Leu Arg Trp
                            2585
           2580
Leu Val Glu Arg Arg Phe Leu Glu Pro Val Gly Lys Val Ile Asp Leu
                         2600
Gly Cys Gly Arg Gly Gly Trp Cys Tyr Tyr Met Ala Thr Gln Lys Arg
```

	2610)				2615	5				2620)			
Val 2625		Glu	Val	Arg	Gly 2630	-	Thr	Lys	Gly	Gly 2635		Gly	His		Glu 2640
Pro	Gln	Leu	Val	Gln 2645		Tyr	Gly	Trp	Asn 2650		Val	Thr	Met	Lys 2655	
Gly	Val	Asp	Val 2660		Tyr	Arg	Pro	Ser 2665		Cys	Cys	Asp	Thr 2670		Leu
Cys	Asp	Ile 2675		Glu	Ser	Ser	Ser 2680		Ala	Glu	Val	Glu 2685		His	Arg
	Ile 2690		Val	Leu	Glu	Met 2695		Glu	Asp	Trp	Leu 2700		Arg	Gly	Pro
Lys 2705		Phe	Суѕ	Val	Lys 2710		Leu	Cys	Pro	Tyr 2715		Pro	Lys		Ile 2720
Glu	Lys	Met	Glu	Leu 2725		Gln	Arg	Arg	Tyr 2730		Gly	Gly	Leu	Val 2735	
Asn	Pro	Leu	Ser 2740	_	Asn	Ser	Thr	His 2745		Met	Tyr	Trp	Val 2750		Arg
Ala	Ser	Gly 2755		Val	Val	His	Ser 2760		Asn	Met	Thr	Ser 2765		Val	Leu
Leu	Gly 2770	-	Met	Glu	Lys	Arg 2775		Trp	Lys	Gly	Pro 2780		Tyr	Glu	Glu
Asp 2785		Asn	Leu	Gly	Ser 2790	_	Thr	Arg	Ala	Val 2795	_	Lys	Pro		Leu 2800
Asn	Ser	Asp	Thr	Ser 2805	-	Ile	Lys	Asn	Arg 2810		Glu	Arg	Leu	Arg 2815	-
Glu.	Týr	Ser	Ser 2820		Trp	His	His	Asp 2825		Asn	His	Pro	Tyr 2830	-	Thr
Trp	Asn	Tyr 2835		Gly	Ser	Tyr	Asp 2840		Lys	Pro	Thr	Gly 2845		Ala	Ser
Ser	Leu 2850		Asn	Gly	Val	Val 2855		Leu	Leu	Ser	Lys 2860		Trp	Asp	Thr
2865	<u>,</u>				2870)			Thr	2875	5			2	2880
				2885	5				Asp 2890)				2895	5
		_	2900)	_			2905					2910)	
Ala		2915	5	_		_	2920)	_		-	2925	5		
	2930)				2935	5		Ala		2940)			
2945	;				2950)			Glu	2955	5			2	2960
				2965	5 .				Glu 2970)				2975	5
_			2980)	-			2985		_	_		2990)	
_		2995	5	_		_	3000)	Arg			3005	5		_
	3010)	_			301	5		Ala		3020)			
3025	5				3030)			Gly	3035	5			3	3040
Gly	Leu	Gln	Lys	Leu 3045		Tyr	Ile	Leu	Arg 3050		Val	Gly	Thr	Arg 3055	
									Ala						

Thr Arg Ala Asp Leu Glu Asn Glu Ala Lys Val Leu Glu Leu Leu Asp Gly Glu His Arg Arg Leu Ala Arg Ala Ile Ile Glu Leu Thr Tyr Arg His Lys Val Val Lys Val Met Arg Pro Ala Ala Asp Gly Arg Thr Val Met Asp Val Ile Ser Arg Glu Asp Gln Arg Gly Ser Gly Gln Val Val 3125 3130 Thr Tyr Ala Leu Asn Thr Phe Thr Asn Leu Ala Val Gln Leu Val Arg 3140 3145 3150 Met Met Glu Gly Glu Gly Val Ile Gly Pro Asp Asp Val Glu Lys Leu 3160 3165 Thr Lys Gly Lys Gly Pro Lys Val Arg Thr Trp Leu Phe Glu Asn Gly Glu Glu Arg Leu Ser Arg Met Ala Val Ser Gly Asp Asp Cys Val Val Lys Pro Leu Asp Asp Arg Phe Ala Thr Ser Leu His Phe Leu Asn Ala Met Ser Lys Val Arg Lys Asp Ile Gln Glu Trp Lys Pro Ser Thr Gly Trp Tyr Asp Trp Gln Gln Val Pro Phe Cys Ser Asn His Phe Thr Glu Leu Ile Met Lys Asp Gly Arg Thr Leu Val Val Pro Cys Arg Gly Gln Asp Glu Leu Val Gly Arg Ala Arg Ile Ser Pro Gly Ala Gly Trp Asn Val Arg Asp Thr Ala Cys Leu Ala Lys Ser Tyr Ala Gln Met Trp Leu Leu Leu Tyr Phe His Arg Arg Asp Leu Arg Leu Met Ala Asn Ala Ile Cys Ser Ala Val Pro Val Asn Trp Val Pro Thr Gly Arg Thr Thr Trp Ser Ile His Ala Gly Gly Glu Trp Met Thr Thr Glu Asp Met Leu Glu Val Trp Asn Arq Val Trp Ile Glu Glu Asn Glu Trp Met Glu Asp Lys 3355 3360 Thr Pro Val Glu Lys Trp Ser Asp Val Pro Tyr Ser Gly Lys Arg Glu Asp Ile Trp Cys Gly Ser Leu Ile Gly Thr Arg Thr Arg Ala Thr Trp Ala Glu Asn Ile Gln Val Ala Ile Asn Gln Val Arg Ala Ile Ile Gly Asp Glu Lys Tyr Val Asp Tyr Met Ser Ser Leu Lys Arg Tyr Glu Asp Thr Thr Leu Val Glu Asp Thr Val Leu

West Nile Virus - AF260969

 Met
 Ser
 Lys
 Pro
 Gly
 Gly
 Pro
 Gly
 Lys
 Ser
 Arg
 Ala
 Val
 Leu
 Ser
 Leu
 Ile
 Gly
 Leu
 Lys
 Arg

 Leu
 Lys
 Arg
 Gly
 Met
 Pro
 Arg
 Val
 Leu
 Ser
 Leu
 Lys
 Arg

 Ala
 Met
 Leu
 Ser
 Leu
 Ile
 Asg
 Gly
 Pro
 Ile
 Arg
 Phe
 Val
 Leu

 Ala
 Leu
 Ala
 Phe
 Phe
 Arg
 Phe
 Thr
 Ala
 Ile
 Ala
 Pro
 Thr
 Arg
 Ala

 Ala
 Leu
 Ala
 Phe
 Phe
 Arg
 Phe
 Thr
 Ala
 Ile
 Ala
 Pro
 Thr
 Arg
 Ala

```
Val Leu Asp Arg Trp Arg Gly Val Asn Lys Gln Thr Ala Met Lys His
Leu Leu Ser Phe Lys Lys Glu Leu Gly Thr Leu Thr Ser Ala Ile Asn
                                    90
Arg Arg Ser Ser Lys Gln Lys Lys Arg Gly Gly Lys Thr Gly Ile Ala
           100
                                105
Val Met Ile Gly Leu Ile Ala Ser Val Gly Ala Val Thr Leu Ser Asn
                            120
Phe Gln Gly Lys Val Met Met Thr Val Asn Ala Thr Asp Val Thr Asp
                        135
                                            140
Val Ile Thr Ile Pro Thr Ala Ala Gly Lys Asn Leu Cys Ile Val Arg
                   150
                                        155
Ala Met Asp Val Gly Tyr Met Cys Asp Asp Thr Ile Thr Tyr Glu Cys
                165
                                   170
Pro Val Leu Ser Ala Gly Asn Asp Pro Glu Asp Ile Asp Cys Trp Cys
            180
                                185
Thr Lys Ser Ala Val Tyr Val Arg Tyr Gly Arg Cys Thr Lys Thr Arg
                            200
His Ser Arg Arg Ser Arg Arg Ser Leu Thr Val Gln Thr His Gly Glu
                        215
                                            220
Ser Thr Leu Ala Asn Lys Lys Gly Ala Trp Met Asp Ser Thr Lys Ala
                   230
                                       235
Thr Arg Tyr Leu Val Lys Thr Glu Ser Trp Ile Leu Arg Asn Pro Gly
                                    250
               245
Tyr Ala Leu Val Ala Ala Val Ile Gly Trp Met Leu Gly Ser Asn Thr
                                265
           260
Met Gln Arg Val Val Phe Val Val Leu Leu Leu Val Ala Pro Ala
                           280
Tyr Ser Phe Asn Cys Leu Gly Met Ser Asn Arg Asp Phe Leu Glu Gly
                        295
                                            300
Val Ser Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys
                    310
                                        315
Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val Lys Met Met
                                    330
                325
Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr Cys Tyr Leu
                                345
            340
Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro Thr Met Gly
                            360
Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val Cys Arg Gln
                        375
                                         380
Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly LEU Phe Gly Lys
                    390
                                        395
Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr Lys Ala Thr
                                    410
                405
Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val Ala Ile Phe
            420
                                425
Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Ser Thr Gln
                            440
                                                445
Ile Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                                            460
                        455
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                    470
                                        475
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                485
                                    490
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                                505
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
```

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520
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                       535
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                                       555
                   550
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                                   570
               565
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
                              585
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
             600
                                              605 L
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                       615
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                                       635
                    630
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
                                    650
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
                               665
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                           680
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Leu Lys Gly
                                           700
                       695
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
                   710
                                       715
Val Gly Gly Val Phe Thr Ser Val Gly|{f LYS}|Ala Val His Gln Val Phe
                                   730
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                                745
Gly Leu Leu Gly Ala Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                           760
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Gly Val Leu Leu Phe
                       775
                                           780
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                   790
                                       795
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
                                   810
               805
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
           820
                               825
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                            840
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ser Val Lys Asp
                                            860
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
                    870
                                        875
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
                                   890
Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
            900
                               905
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                            920
                                                925
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                        935
                                            940
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
                                        955
                    950
Lys Val Arg Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
                                    970
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```
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                         985
         980
Ile Glu Ser Arg Phe Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
                     1000
                               1005
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
        1015
                                  1020
Asp Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
                               1035 1040
1025 1030
Pro Arg Ser Asn His Asn Arg Arg Pro Gly Tyr Lys Thr Gln Asn Gln
     10.45
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
               1065 1070
    1060
Gly Thr Thr Val Thr Leu Ser Glu Ser Cys Gly His Arg Gly Pro Ala
      1075
                     1080
                                     1085
Thr Arg Thr Thr Glu Ser Gly Lys Leu Ile Thr Asp Trp Cys Cys
                  1095
  1090
                                  1100
Arg Ser Cys Thr Leu Pro Pro Leu Arg Tyr Gln Thr Asp Ser Gly Cys
                      1115
                                              1120
      1110
Trp Tyr Gly Met Glu Ile Arg Pro Gln Arg His Asp Glu Lys Thr Leu
                           1130
            1125
Val Gln Ser Gln Val Asn Ala Tyr Asn Ala Asp Met Ile Asp Pro Phe
                             1150
         1140
               1145
Gln Leu Gly Leu Val Val Phe Leu Ala Thr Gln Glu Val Leu Arg
     1155 1160
                          1165
Lys Arg Trp Thr Ala Lys Ile Ser Met Pro Ala Ile Leu Ile Ala Leu
                  1175
                       1180
Leu Val Leu Val Phe Gly Gly Ile Thr Tyr Thr Asp Val Leu Arg Tyr
      1190 1195
Val Ile Leu Val Gly Ala Ala Phe Ala Glu Ser Asn Ser Gly Gly Asp
            1205
                            1210
                                            1215
Val Val His Leu Ala Leu Met Ala Thr Phe Lys Ile Gln Pro Val Phe
                        1225
         1220
                                        1230
Met Val Ala Ser Phe Leu Lys Ala Arg Trp Thr Asn Gln Glu Asn Ile
                     1240
                                     1245
Leu Leu Met Leu Ala Ala Val Phe Phe Gln Met Ala Tyr His Asp Ala
   1250 1255 1260
Arg Gln Ile Leu Leu Trp Glu Ile Pro Asp Val Leu Asn Ser Leu Ala
               1270 1275 1280
Val Ala Trp Met Ile Leu Arg Ala Ile Thr Phe Thr Thr Ser Asn
            1285
                            1290
Val Val Pro Leu Leu Ala Leu Leu Thr Pro Gly Leu Arg Cys Leu
         1300
                         1305
                                         1310
Asn Leu Asp Val Tyr Arg Ile Leu Leu Leu Met Val Gly Ile Gly Ser
                      1320
                                     1325
      1315
Leu Ile Arg Glu Lys Arg Ser Ala Ala Ala Lys Lys Gly Ala Ser
                  1335
                        1340
Leu Leu Cys Leu Ala Leu Ala Ser Thr Gly Leu Phe Asn Pro Met Ile
1345 1350 1355 1360
Leu Ala Ala Gly Leu Ile Ala Cys Asp Pro Asn Arg Lys Arg Gly Trp
                  1370
            1365
Pro Ala Thr Glu Val Met Thr Ala Val Gly Leu Met Phe Ala Ile Val
                        1385
                                        1390
         1380
Gly Gly Leu Ala Glu Leu Asp Ile Asp Ser Met Ala Ile Pro Met Thr
            1400
      1395
Ile Ala Gly Leu Met Phe Ala Ala Phe Val Ile Ser Gly Lys Ser Thr
                   1415
                                   1420
Asp Met Trp Ile Glu Arg Thr Ala Asp Ile Ser Trp Glu Ser Asp Ala
```

1425	1430		1435	1440
	1445	1	150	Leu Asp Asp Asp 1455
140	50	1465		Frp Lys Ile Trp 1470
1475	-	1480	1	Thr Pro Trp Ala 1485
1490	14	95	1500	Gln Tyr Thr Lys
1505	1510	_	1515	Glu Tyr Lys Lys 1520
	1525	1:	530	Arg Gly Leu Leu 1535
15	40	1545		Gly Val Phe His 1550
1555		1560	1	Ser Gly Glu Gly
1570	15	75	1580	Arg Leu Cys Tyr
1585	1590	_	1595	Gln Asp Glu Val 1600
	1605	1	610	Asn Val Gln Thr 1615
16	20	1625	-	Gly Ala Val Thr 1630
1635		1640	-	Val Asp Lys Asn 1645
1650	16	555	1660	Met Pro Asn Gly
1665	1670		1675	
	1685	1	690	Gln Ile Thr Val 1695
17	00	1705		Ile Leu Pro Gln 1710
1715		1720	:	Ala Val Leu Ala 1725
1730	17	735	1740	Leu Arg Gly Leu
1745	1750		1755	His Asn Gly Asn 1760
	1765	1	770	His Arg Leu Met 1775
17	80	1785		Met Asp Glu Ala 1790
1795		1800		Tyr Ile Ser Thr 1805
1810	18	315	1820	
1825	1830		1835	Pro Ile Ser Asp 1840
	1845	. 1	850	Gly Tyr Glu Trp 1855
18	60	1865		Pro Ser Val Lys 1870
Met Gly Asn Gl 1875	u Ile Ala Le	eu Cys Leu G 1880	_	Gly Lys Lys Val 1885

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Val Gln Leu Asn Arg Lys Ser Tyr Glu Thr Glu Tyr Pro Lys Cys Lys
   1890
                    1895
                                      1900
Asn Asp Asp Trp Asp Phe Val Ile Thr Thr Asp Ile Ser Glu Met Gly
      1910
                                 1915
Ala Asn Phe Lys Ala Ser Arg Val Ile Asp Ser Arg Lys Ser Val Lys
             1925
                              1930
Pro Thr Ile Ile Thr Glu Gly Glu Gly Arg Val Ile Leu Gly Glu Pro
       1940 1945
Ser Ala Val Thr Ala Ala Ser Ala Ala Gln Arg Arg Gly Arg Ile Gly
     1955 1960
                                         1965
Arg Asn Pro Ser Gln Val Gly Asp Glu Tyr Cys Tyr Gly Gly His Thr
                   1975 1980
Asn Glu Asp Asp Ser Asn Phe Ala His Trp Thr Glu Ala Arg Ile Met
                 1990
                                  1995
Leu Asp Asn Ile Asn Met Pro Asn Gly Leu Ile Ala Gln Phe Tyr Gln
                               2010
             2005
                                                2015
Pro Glu Arg Glu Lys Val Tyr Thr Met Asp Gly Glu Tyr Arg Leu Arg
                          2025
          2020
Gly Glu Glu Arg Lys Asn Phe Leu Glu Leu Leu Arg Thr Ala Asp Leu
                       2040
                                         2045
Pro Val Trp Leu Ala Tyr Lys Val Ala Ala Ala Gly Val Ser Tyr His
  2050 2055 2060
Asp Arg Arg Trp Cys Phe Asp Gly Pro Arg Thr Asn Thr Ile Leu Glu
2065 2070 2075 2080
Asp Asn Asn Glu Val Glu Val Ile Thr Lys Leu Gly Glu Arg Lys Ile
                              2090 2095
Leu Arg Pro Arg Trp Ile Asp Ala Arg Val Tyr Ser Asp His Gln Ala
          2100
                           2105
                                             2110
Leu Lys Ala Phe Lys Asp Phe Ala Ser Gly Lys Arg Ser Gln Ile Gly
                       2120
                                         2125
      2115
Leu Ile Glu Val Leu Gly Lys Met Pro Glu His Phe Met Gly Lys Thr
                    2135
                                     2140
Trp Glu Ala Leu Asp Thr Met Tyr Val Val Ala Thr Ala Glu Lys Gly
      2150
                                  2155
Gly Arg Ala His Arg Met Ala Leu Glu Glu Leu Pro Asp Ala Leu Gln
             2165 2170
Thr Ile Ala Leu Ile Ala Leu Leu Ser Val Met Thr Met Gly Val Phe
                          2185
          2180
                                            2190
Phe Leu Leu Met Gln Arg Lys Gly Ile Gly Lys Ile Gly Leu Gly Gly
                        2200
                                         2205
Val Val Leu Gly Val Ala Thr Phe Phe Cys Trp Met Ala Glu Val Pro
                     2215
                                      2220
Gly Thr Lys Ile Ala Gly Met Leu Leu Ser Leu Leu Leu Met Ile
                 2230
                                  2235
Val Leu Ile Pro Glu Pro Glu Lys Gln Arg Ser Gln Thr Asp Asn Gln
             2245
                               2250
Leu Ala Val Phe Leu Ile Cys Val Met Thr Leu Val Ser Ala Val Ala
                           2265
          2260
Ala Asn Glu Met Gly Trp Leu Asp Lys Thr Lys Ser Asp Val Ser Ser
                        2280 2285
      2275
Leu Phe Gly Gln Arg Ile Glu Val Lys Glu Asn Phe Ser Met Gly Glu
                    2295
                         2300
Phe Leu Leu Asp Leu Arg Pro Ala Thr Ala Trp Ser Leu Tyr Ala Val
                 2310
                                  2315
Thr Thr Ala Val Leu Thr Pro Leu Leu Lys His Leu Ile Thr Ser Asp
              2325
                               2330
Tyr Ile Asn Thr Ser Leu Thr Ser Ile Asn Val Gln Ala Ser Ala Leu
```

234	0	2345		2350
	Arg Gly Phe	Pro Phe Val Asp 2360	Val Gly 2365	
2370	2375		2380	
2385	2390	Phe Cys His Tyr 239	5	2400
	2405	Arg Ser Ala Gln 2410		2415
242	0	Val Asp Gly Ile 2425		2430
2435		Pro Ile Met Gln 2440	2445	5
2450	2455		2460	
2465	2470	Gly Ile Leu Ile 247	5	2480
	2485	Ser Ser Val Trp 2490		2495
250	00	Arg Gly Gly Trp 2505		2510
2515		Asn Met Asp Lys 2520	252	5
2530	2535		2540	
2545	2550	Phe Thr Arg Tyr 255	5	2560
	2565	Ala Lys His Ala 2570		2575
258	30	Ser Arg Gly Thr 2585		2590
2595		Glu Pro Val Gly 2600	260	5
2610	2615		2620	
2625	2630	Thr Lys Gly Gly 263	5	2640
	2645	Gly Trp Asn Ile 2650		2655
260	50	Pro Ser Glu Cys 2665 Ser Ser Ala Glu		2670
2675		2680	268	5
2690	. 2695	Val Glu Asp Trp 5 Leu Cys Pro Tyr	2700	
2705	2710	271 Arg Arg Tyr Gly	.5	2720
	2725	2730 Thr His Glu Met		2735
27	40	2745 Ser Val Asn Met		2750
2755		2760 Thr Trp Lys Gly	276	5
2770	2775		2780	
2785	2790	279		2800

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Asn Ser Asp Thr Ser Lys Ile Lys Asn Arg Ile Glu Arg Leu Arg Arg
             2805
                              2810
                                               2815
Glu Tyr Ser Ser Thr Trp His His Asp Glu Asn His Pro Tyr Arg Thr
                          2825
                                  2830
         2820
Trp Asn Tyr His Gly Ser Tyr Asp Val Lys Pro Thr Gly Ser Ala Ser
                      2840
Ser Leu Val Asn Gly Val Val Arg Leu Leu Ser Lys Pro Trp Asp Thr
         2855 2860
Ile Thr Asn Val Thr Thr Met Ala Met Thr Asp Thr Thr Pro Phe Gly
2865 2870 2875 2880
Gln Gln Arg Val Phe Lys Glu Lys Val Asp Thr Lys Ala Pro Glu Pro
             2885 2890
Pro Glu Gly Val Lys Tyr Val Leu Asn Glu Thr Thr Asn Trp Leu Trp
                          2905
          2900
Ala Phe Leu Ala Arg Glu Lys Arg Pro Arg Met Cys Ser Arg Glu Glu
                       2920
                                        2925
Phe Ile Arq Lys Val Asn Ser Asn Ala Ala Leu Gly Ala Met Phe Glu
                                    2940
                   2935
Glu Gln Asn Gln Trp Arg Ser Ala Arg Glu Ala Val Glu Asp Pro Lys
               2950
                                 2955
Phe Trp Glu Met Val Asp Glu Glu Arg Glu Ala His Leu Arg Gly Glu
         2965 2970
Cys His Thr Cys Ile Tyr Asn Met Met Gly Lys Arg Glu Lys Lys Pro
         2980 2985 2990
Gly Glu Phe Gly Lys Ala Lys Gly Ser Arg Ala Ile Trp Phe Met Trp
                       3000
                                       3005
Leu Gly Ala Arg Phe Leu Glu Phe Glu Ala Leu Gly Phe Leu Asn Glu
   3010
                                     3020
                    3015
Asp His Trp Leu Gly Arg Lys Asn Ser Gly Gly Val Glu Gly Leu
                                 3035
3025
                 3030
Gly Leu Gln Lys Leu Gly Tyr Ile Leu Arg Glu Val Gly Thr Arg Pro
             3045
                             3050
Gly Gly Lys Ile Tyr Ala Asp Asp Thr Ala Gly Trp Asp Thr Arg Ile
       . 3060
                3065
Thr Arq Ala Asp Leu Glu Asn Glu Ala Lys Val Leu Glu Leu Asp
       3075 3080 3085
Gly Glu His Arg Arg Leu Ala Arg Ala Ile Ile Glu Leu Thr Tyr Arg
                   3095
                                    3100
His Lys Val Val Lys Val Met Arg Pro Ala Ala Asp Gly Arg Thr Val
                3110
                                 3115
Met Asp Val Ile Ser Arg Glu Asp Gln Arg Gly Ser Gly Gln Val Val
             3125
                              3130
                                               3135
Thr Tyr Ala Leu Asn Thr Phe Thr Asn Leu Ala Val Gln Leu Val Arg
          3140
                           3145
                                            3150
Met Met Glu Gly Glu Gly Val Ile Gly Pro Asp Asp Val Glu Lys Leu
                       3160 3165
Thr Lys Gly Lys Gly Pro Lys Val Arg Thr Trp Leu Phe Glu Asn Gly
                   3175
                                     3180
Glu Glu Arg Leu Ser Arg Met Ala Val Ser Gly Asp Asp Cys Val Val
                3190
                       3195 3200
Lys Pro Leu Asp Asp Arg Phe Ala Thr Ser Leu His Phe Leu Asn Ala
                             3210
             3205
Met Ser Lys Val Arg Lys Asp Ile Gln Glu Trp Lys Pro Ser Thr Gly
                           3225
          3220
Trp Tyr Asp Trp Gln Gln Val Pro Phe Cys Ser Asn His Phe Thr Glu
       3235
                        3240
                                         3245
Leu Ile Met Lys Asp Gly Arg Thr Leu Val Val Pro Cys Arg Gly Gln
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Asp Glu Leu Val Gly Arg Ala Arg Ile Ser Pro Gly Ala Gly Trp Asn Val Arq Asp Thr Ala Cys Leu Ala Lys Ser Tyr Ala Gln Met Trp Leu Leu Leu Tyr Phe His Arg Arg Asp Leu Arg Leu Met Ala Asn Ala Ile Cys Ser Ala Val Pro Val Asn Trp Val Pro Thr Gly Arg Thr Thr Trp Ser Ile His Ala Gly Gly Glu Trp Met Thr Thr Glu Asp Met Leu Glu Val Trp Asn Arg Val Trp Ile Glu Glu Asn Glu Trp Met Glu Asp Lys Thr Pro Val Glu Lys Trp Ser Asp Val Pro Tyr Ser Gly Lys Arg Glu Asp Ile Trp Cys Gly Ser Leu Ile Gly Thr Arg Ala Arg Ala Thr Trp Ala Glu Asn Ile Gln Val Ala Ile Asn Gln Val Arg Ala Ile Ile Gly Asp Glu Lys Tyr Val Asp Tyr Met Ser Ser Leu Lys Arg Tyr Glu Asp Thr Ile Leu Val Glu Asp Thr Val Leu

West Nile Virus - AF481864

Met Ser Lys Lys Pro Gly Gly Pro Gly Lys Ser Arg Ala Val Asn Met Leu Lys Arg Gly Met Pro Arg Val Leu Ser Leu Ile Gly Leu Lys Arg Ala Met Leu Ser Leu Ile Asp Gly Lys Gly Pro Ile Arg Phe Val Leu Ala Leu Leu Ala Phe Phe Arg Phe Thr Ala Ile Ala Pro Thr Arg Ala Val Leu Asp Arg Trp Arg Gly Val Asn Lys Gln Thr Ala Met Lys His Leu Leu Ser Phe Lys Lys Glu Leu Gly Thr Leu Thr Ser Ala Ile Asn Arg Arg Ser Ser Lys Gln Lys Lys Arg Gly Gly Lys Thr Gly Ile Ala Val Met Ile Gly Leu Ile Ala Ser Val Gly Ala Val Thr Leu Ser Asn Phe Gln Gly Lys Val Met Met Thr Val Asn Ala Thr Asp Val Thr Asp Val Ile Thr Ile Pro Thr Ala Ala Gly Lys Asn Leu Cys Ile Val Arg Ala Met Asp Val Gly Tyr Met Cys Asp Asp Thr Ile Thr Tyr Glu Cys Pro Val Leu Ser Ala Gly Asn Asp Pro Glu Asp Ile Asp Cys Trp Cys Thr Lys Ser Ala Val Tyr Val Arg Tyr Gly Arg Cys Thr Lys Thr Arg His Ser Arg Arg Ser Arg Ser Leu Thr Val Gln Thr His Gly Glu Ser Thr Leu Ala Asn Lys Lys Gly Ala Trp Met Asp Ser Thr Lys Ala Thr Arg Tyr Leu Val Lys Thr Glu Ser Trp Ile Leu Arg Asn Pro Gly

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245
                                    250
Tyr Ala Leu Val Ala Ala Val Ile Gly Trp Met Leu Gly Ser Asn Thr
                               265
            260
Met Gln Arg Val Val Phe Val Val Leu Leu Leu Val Ala Pro Ala
                           280
Tyr Ser Phe Asn Cys Leu Gly Met Ser Asn Arg Asp Phe Leu Glu Gly
                                           300
                       295
Val Ser Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys
                   310
                                       315
Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val Lys Met Met
               325
                                   330
Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr Cys Tyr Leu
                                345
Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro Thr Met Gly
                            360
Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val Cys Arg Gln
                                            380
                        375
Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly LEU Phe Gly Lys
                   390
                                       395
Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr Lys Ala Ile
               405
                                    410
Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val Ala Ile Phe
           420
                                425
Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Ser Thr Gln
                           440
                                                445
Val Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                        455
                                            460
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                    470
                                        475
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                                    490
                485
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                               505
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                           520
                                               525
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                        535
                                           540
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                   550
                                       555
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                565
                                    570
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
                                                605 L
                            600
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                        615
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                   630
                                        635
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
                645
                                    650
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
                                665
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                            680
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Leu Lys Gly
                        695
                                            700
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Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
            • 710
                                      715
Val Gly Gly Val Phe Thr Ser Val Gly LYS Ala Val His Gln Val Phe
               725
                                   730
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                              745
Gly Leu Leu Gly Ala Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                           760
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Gly Val Leu Leu Phe
                                          780
                       775
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                   790
                                      795
Arg Gln Glu Leu Arg Cys Gly Asn Gly Val Phe Ile His Asn Asp Val
                                  810
               805
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
                               825
           820
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                          840
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ala Val Lys Asp
                      855
                                          860
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
               870
                                     875
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
                                  890
               885
Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
                               905
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                           920
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                       935
                                          940
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
                  950
                                      955
Lys Val Arg Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
                                  970
               965
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                              985
                                                  990
Ile Glu Ser Arg Leu Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
                          1000
                                              1005
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
                      1015
                                          1020
Asp Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
                   1030
                                       1035
Pro Arg Ser Asn His Asn Arg Arg Pro Gly Tyr Lys Thr Gln Asn Gln
               1045
                                   1050
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
                              1065
Gly Thr Thr Val Thr Leu Ser Glu Ser Cys Gly His Arg Gly Pro Ala
                           1080
                                             1085
       1075
Thr Arg Thr Thr Glu Ser Gly Lys Leu Ile Thr Asp Trp Cys Cys
                      1095
                                          1100
Arg Ser Cys Thr Leu Pro Pro Leu Arg Tyr Gln Thr Asp Ser Gly Cys
1105 1110
                         1115
Trp Tyr Gly Met Glu Ile Arg Pro Gln Arg His Asp Glu Lys Thr Leu
                                  1130
               1125
Val Gln Ser Gln Val Asn Ala Tyr Asn Ala Asp Met Ile Asp Pro Phe
                               1145
Gln Leu Gly Leu Leu Val Val Phe Leu Ala Thr Gln Glu Val Leu Arg
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1155		1160		1165
Lys Arg Trp Th 1170		le Ser Met 175	Pro Ala Ile · 1180	Leu Ile Ala Leu
Leu Val Leu Va 1185	al Phe Gly Gl 1190	ly Ile Thr		Val Leu Arg Tyr 1200
	1205		1210	
	eu Ala Leu Me 220		Phe Lys Ile	Gln Pro Val Phe 1230
1235	_	1240	_	Gln Glu Asn Ile 1245
1250	12	255	1260	
1265	1270		1275 .	Asn Ser Leu Ala 1280
	1285		1290.	
13	300	1305	*	
1315		1320		Gly Ile Gly Ser 1325
1330	13	335	134	
1345	1350		1355	Asn Pro Met Ile 1360
	1365		1370	
1:	380	1385	•	
1395		1400 .		
1410	1	415	142	
1425	1430		1435	
	1445	_	1450	Leu Asp Asp Gly 1455
1	460	1465	; _.	Trp Lys Ile Trp
1475	_	1480		Thr Pro Trp Ala
1490	1	495	. 150	
1505	1510	_	1515	Glu Tyr Lys Lys 1520
	1525		1530	Arg Gly Leu Leu 1535
1.	540	1545	j, .	Gly Val Phe His
1555		1560		Ser Gly Glu Gly
1570	1	575	158	
1585	1590		1595	Gln Asp Glu Val 1600
Gln Met Ile V	al Val Glu P 1605	ro Gly Lys	Asn Val Lys 1610	Asn Val Gln Thr 1615

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Lys Pro Gly Val Phe Lys Thr Pro Glu Gly Glu Ile Gly Ala Val Thr
                          1625
         1620
Leu Asp Phe Pro Thr Gly Thr Ser Gly Ser Pro Ile Val Asp Lys Asn
                      1640
                                       1645
      1635
Gly Asp Val Ile Gly Leu Tyr Gly Asn Gly Val Ile Met Pro Asn Gly
         1655
Ser Tyr Ile Ser Ala Ile Val Gln Gly Glu Arg Met Asp Glu Pro Ile
1665 1670
                                1675 1680
Pro Ala Gly Phe Glu Pro Glu Met Leu Arg Lys Lys Gln Ile Thr Val
    1685 1690
                                             1695
Leu Asp Leu His Pro Gly Ala Gly Lys Thr Arg Arg Ile Leu Pro Gln
                         1705
         1700
                                          1710
Ile Ile Lys Glu Ala Ile Asn Arg Arg Leu Arg Thr Ala Val Leu Ala
                      1720
                                       1725
      1715
Pro Thr Arq Val Val Ala Ala Glu Met Ala Glu Ala Leu Arg Gly Leu
                                    1740
                   1735
Pro Ile Arg Tyr Gln Thr Ser Ala Val Pro Arg Glu His Asn Gly Asn
               1750
                                1755
Glu Ile Val Asp Val Met Cys His Ala Thr Leu Thr His Arg Leu Met
            1765
                            1770
Ser Pro His Arg Val Pro Asn Tyr Asn Leu Phe Val Met Asp Glu Ala
         1780 1785 1790
His Phe Thr Asp Pro Ala Ser Ile Ala Ala Arg Gly Tyr Ile Ser Thr
 1795 1800
                           1805
Lys Val Glu Leu Gly Glu Ala Ala Ala Ile Phe Met Thr Ala Thr Pro
                   1815
Pro Gly Thr Ser Asp Pro Phe Pro Glu Ser Asn Ser Pro Ile Ser Asp
               1830 1835
Leu Gln Thr Glu Ile Pro Asp Arg Ala Trp Asn Ser Gly Tyr Glu Trp
         . 1845
                             1850
Ile Thr Glu Tyr Thr Gly Lys Thr Val Trp Phe Val Pro Ser Val Lys
                                          1870
         1860
                1865
Met Gly Asn Glu Ile Ala Leu Cys Leu Gln Arg Ala Gly Lys Lys Val
                      1880
                                       1885
Val Gln Leu Asn Arg Lys Ser Tyr Glu Thr Glu Tyr Pro Lys Cys Lys
   1890 1895 1900
Asn Asp Asp Trp Asp Phe Val Ile Thr Thr Asp Ile Ser Glu Met Gly
               1910 1915 1920
Ala Asn Phe Lys Ala Ser Arg Val Ile Asp Ser Arg Lys Ser Val Lys
             1925
                             1930 1935
Pro Thr Ile Ile Thr Glu Gly Glu Gly Arg Val Ile Leu Gly Glu Pro
                                          1950
          1940
                          1945
Ser Ala Val Thr Ala Ala Ser Ala Ala Gln Arg Arg Gly Arg Ile Gly
                       1960
      1955
                                       1965
Arg Asn Pro Ser Gln Val Gly Asp Glu Tyr Cys Tyr Gly Gly His Thr
                   1975 1980
Asn Glu Asp Asp Ser Asn Phe Ala His Trp Thr Glu Ala Arg Ile Met
               1990
                      1995
Pro Asp Asn Ile Asn Met Pro Asn Gly Leu Ile Ala Gln Phe Tyr Gln
            2005 2010
Pro Glu Arg Glu Lys Val Tyr Thr Met Glu Gly Glu Tyr Arg Leu Arg
          2020 2025
                                          2030
Gly Glu Glu Arg Lys Asn Phe Leu Glu Leu Leu Arg Thr Ala Asp Leu
                       2040
       2035
Pro Val Trp Leu Ala Tyr Lys Val Ala Ala Gly Val Ser Tyr His
                    2055
                                    2060
Asp Arg Arg Trp Cys Phe Asp Gly Pro Arg Thr Asn Thr Ile Leu Glu
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2065	2070	2075 2080
Asp Asn Asn Glu Val 2085		Leu Gly Glu Arg Lys Ile 20 2095
Leu Arg Pro Arg Trp 2100	Ile Asp Ala Arg Val 2105	. Tyr Ser Asp His Gln Ala 2110
2115	2120	Lys Arg Ser Gln Ile Gly 2125
2130	2135	His Phe Met Gly Lys Thr 2140
2145	2150	Ala Thr Ala Glu Lys Gly 2155 2160
216	5 217	
2180	2185	. Met Thr Met Gly Val Phe 2190
2195	2200	Lys Ile Gly Leu Gly Gly 2205
2210	2215	Trp Met Ala Glu Val Pro 2220
2225	2230	Ser Leu Leu Leu Met Ile 2235 2240
. 224	5 225	
2260	2265	Leu Val Ser Ala Val Ala 2270
2275	2280	Lys Ser Asp Ile Ser Ser 2285
Leu Phe Gly Gln Arg 2290	Ile Glu Val Lys Glu 2295	Asn Phe Ser Met Gly Glu 2300
Phe Leu Leu Asp Leu 2305	Arg Pro Ala Thr Ala 2310	Trp Ser Leu Tyr Ala Val 2315 2320
232.	5 233	
2340	2345	n Val Gln Ala Ser Ala Leu 2350
2355	2360	Asp Val Gly Val Ser Ala 2365
2370	2375	n Val Thr Leu Thr Val Thr 2380
Val Thr Ala Ala Thr 2385	Leu Leu Phe Cys His 2390	Tyr Ala Tyr Met Val Pro 2395 2400
Gly Trp Gln Ala Glu 240	_	a Gln Arg Arg Thr Ala Ala 10 2415
2420	2425	y Ile Val Ala Thr Asp Val 2430
Pro Glu Leu Glu Arg 2435	Thr Thr Pro Ile Met 2440	Gln Lys Lys Val Gly Gln 2445
Ile Met Leu Ile Leu 2450	Val Ser Leu Ala Ala 2455	a Val Val Val Asn Pro Ser 2460
Val Lys Thr Val Arg 2465	Glu Ala Gly Ile Leu 2470	Ile Thr Ala Ala Ala Val 2475 2480
248	5 249	
2500	2505	y Trp Leu Ser Cys Leu Ser 2510
Ile Thr Trp Thr Leu 2515	. Ile Lys Asn Met Gli 2520	ı Lys Pro Gly Leu Lys Arg 2525

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Gly Gly Ala Lys Gly Arg Thr Leu Gly Glu Val Trp Lys Glu Arg Leu
   2530
                   2535
                                   2540
Asn Gln Met Thr Lys Glu Glu Phe Thr Arg Tyr Arg Lys Glu Ala Ile
               2550
                                2555
Ile Glu Val Asp Arg Ser Ala Ala Lys His Ala Arg Lys Glu Gly Asn
                            2570 2575
Val Thr Gly Gly His Ser Val Ser Arg Gly Thr Ala Lys Leu Arg Trp
         2580
                        2585 2590
Leu Val Glu Arg Arg Phe Leu Glu Pro Val Gly Lys Val Ile Asp Leu
      2595
                     2600 2605
Gly Cys Gly Arg Gly Gly Trp Cys Tyr Tyr Met Ala Thr Gln Lys Arg
                  2615
                                  2620
Val Gln Glu Val Arg Gly Tyr Thr Lys Gly Gly Pro Gly His Glu Glu
                2630
                               2635
Pro Gln Leu Val Gln Ser Tyr Gly Trp Asn Ile Val Thr Met Lys Ser
                             2650
                                             2655
             2645
Gly Val Asp Val Phe Tyr Arg Pro Ser Glu Cys Cys Asp Thr Leu Leu
                         2665
                                2670
         2660
Cys Asp Ile Gly Glu Ser Ser Ser Ala Glu Val Glu Glu His Arg
      2675 2680
Thr Ile Arg Val Leu Glu Met Val Glu Asp Trp Leu His Arg Gly Pro
  2690 2695
                                  2700
Arg Glu Phe Cys Val Lys Val Leu Cys Pro Tyr Met Pro Lys Val Ile
2705 2710 2715 2720
Glu Lys Met Glu Leu Leu Gln Arg Arg Tyr Gly Gly Leu Val Arg
            2725 2730 2735
Asn Pro Leu Ser Arg Asn Ser Thr His Glu Met Tyr Trp Val Ser Arg
         2740
                                          2750
                         2745
Ala Ser Gly Asn Val Val His Ser Val Asn Met Thr Ser Gln Val Leu
                      2760
      2755
                                      2765
Leu Gly Arg Met Glu Lys Arg Thr Trp Lys Gly Pro Gln Tyr Glu Glu
                                   2780
                  2775
Asp Val Asn Leu Gly Ser Gly Thr Arg Ala Val Gly Lys Pro Leu Leu
                               2795 2800
      2790
Asn Ser Asp Thr Ser Lys Ile Asn Asn Arg Ile Glu Arg Leu Arg Arg
    2805 2810
Glu Tyr Ser Ser Thr Trp His His Asp Glu Asn His Pro Tyr Arg Thr
         2820 2825 2830
Trp Asn Tyr His Gly Ser Tyr Asp Val Lys Pro Thr Gly Ser Ala Ser
                     2840
                                      2845
Ser Leu Val Asn Gly Val Val Arg Leu Leu Ser Lys Pro Trp Asp Thr
                   2855
                                   2860
Ile Thr Asn Val Thr Thr Met Ala Met Thr Asp Thr Thr Pro Phe Gly
                2870
                                2875
Gln Gln Arg Val Phe Lys Glu Lys Val Asp Thr Lys Ala Pro Glu Pro
            2885
                            2890
Pro Glu Gly Ala Lys Tyr Val Leu Asn Glu Thr Thr Asn Trp Leu Trp
         2900 2905
Ala Phe Leu Ala Arg Glu Lys Arg Pro Arg Met Cys Ser Arg Glu Glu
      2915 2920
                             2925
Phe Ile Arg Lys Val Asn Ser Asn Ala Ala Leu Gly Ala Met Phe Glu
                  2935
                        2940
Glu Gln Asn Gln Trp Arg Ser Ala Arg Glu Ala Val Glu Asp Pro Lys
                2950
                                2955
Phe Trp Glu Met Val Asp Glu Glu Arg Glu Ala His Leu Arg Gly Glu
             2965
                             2970
Cys His Thr Cys Ile Tyr Asn Met Met Gly Lys Arg Glu Lys Lys Pro
```

29	80	298	85		2990
Gly Glu Phe Gl 2995	y Lys Ala Ly	s Gly Se: 3000	r Arg Ala	Ile Trp 3005	
Leu Gly Ala Ar 3010		u Phe Gli 15	u Ala Leu	Gly Phe 3020	Leu Asn Glu
Asp His Trp Le 3025	u Gly Arg Ly 3030	s Asn Se	r Gly Gly 3035		Glu Gly Leu 3040
Gly Leu Gln Ly	s Leu Gly Ty 3045	r Ile Le	u Arg Glu 3050	Val Gly	Thr Arg Pro 3055
Gly Gly Lys Il	e Tyr Ala As 60	p Asp Th:		Trp Asp	Thr Arg Ile 3070
Thr Arg Ala As 3075		3080		3085	5
Gly Glu His Ar 3090	30	95		3100	
His Lys Val Va 3105	3110		3115		3120
Met Asp Val Il	3125	-	3130		3135
	.40	31	45		3150
Met Met Glu Gl 3155		3160	-	3165	5
Thr Lys Gly Ly 3170	31	.75	-	3180	
Glu Glu Arg Le	3190		3195		3200
Lys Pro Leu As	3205		3210		3215
	220	32	25		3230
Trp Tyr Asp Tr 3235		3240		3245	5
Leu Ile Met Ly 3250	32	255		3260	
Asp Glu Leu Va 3265	3270	_	3275	•	3280
Val Arg Asp Th	3285		3290		3295
33	300	33	05		3310
Cys Ser Ala Va 3315		3320		3325	5
Ser Ile His Al 3330	33	335		3340	
Val Trp Asn Ar 3345	3350		3355	;	3360
Thr Pro Val Gl	3365		3370		3375
	380	33	85		3390
Ala Glu Asn Il 3395		3400		340	5
Asp Glu Lys Ty 3410	34	115		Lys Arg 3420	Tyr Giu Asp
Thr Thr Leu Va 3425	al Glu Asp Th 3430	nr Val Le	u		

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									_	_	_			_	
Met 1	Ser	Lys	Lys	Pro 5	Gly	Gly	Pro	Gly	Lys 10	Ser	Arg	Ala	Val	Asn 15	Met
Leu	Lys	Arg	Gly 20	Met	Pro	Arg	Val	Leu 25	Ser	Leu	Ile	Gly	Leu 30	Lys	Arg
Ala	Met	Leu 35	Ser	Leu	Ile	Asp	Gly 40	Lys	Gly	Pro	Ile	Arg 45	Phe	Val	Leu
Ala	Leu 50	Leu	Ala	Phe	Phe	Arg 55	Phe	Thr	Ala	Ile	Ala 60	Pro	Thr	Arg	Ala
Val 65	Leu	Asp	Arg	Trp	Arg 70	Gly	Val	Asn	Lys	Gln 75	Thr	Ala	Met	Lys	His 80
Leu	Leu	Ser	Phe	Lys 85	Lys	Glu	Leu	Gly	Thr 90	Leu	Thr	Ser	Ala	Ile 95	Asn
Arg	Arg	Ser	Ser 100	Lys	Gln	Lys	Lys	Arg 105	Gly	Gly	Lys	Thr	Gly 110	Ile	Ala
Val	Met	Ile 115	Gly	Leu	Ile	Ala	Ser 120	Val	Gly	Ala	Val	Thr 125	Leu	Ser	Asn
Phe	Gln 130	Gly	Lys	Val	Met	Met 135	Thr	Val	Asn	Ala	Thr 140	Asp	Val	Thr	Asp
Val 145	Ile	Thr	Ile	Pro	Thr 150	Ala	Ala	Gly	Lys	Asn 155	Leu	Cys	Ile	Val	Arg 160
Ala	Met	Asp	Val	Gly 165	Tyr	Met	Cys	Asp	Asp 170	Thr	Ile	Thr	Tyr	Glu 175	Cys
Pro	Val	Leu	Ser 180	Ala	Gly	Asn	Asp	Pro 185	Glu	Asp	Ile	Asp	Cys 190	Trp	Cys
Thr	Lys	Ser 195	Ala	Val	Tyr	Val	Arg 200	Tyr	Gly	Arg	Cys	Thr 205	Lys	Thr	Arg
His	Ser 210	Arg	Arg	Ser	Arg	Arg 215	Ser	Leu	Thr	Val	Gln 220	Thr	His	Gly	Glu
Ser 225	Thr	Leu	Ala	Asn	Lys 230	Lys	Gly	Ala	Trp	Met 235	Asp	Ser	Thr	Lys	Ala 240
Thr	Arg	Tyr	Leu	Val 245	Lys	Thr	Glu	Ser	Trp 250	Ile	Leu	Arg	Asn	Pro 255	Gly
Tyr	Ala	Leu	Val 260	Ala	Ala	Val	Ile	Gly 265	Trp	Met	Leu	Gly	Ser 270	Asn	Thr
Met	Gln	Arg 275	Val	Val	Phe	Val	Val 280	Leu	Leu	Leu	Leu	Val 285	Ala	Pro	Ala
Tyr	Ser 290	Phe	Asn	Cys	Leu	Gly 295	Met	Ser	Asn	Arg	Asp 300	Phe	Leu	Glu	Gly
Val 305	Ser	Gly	Ala	Thr	Trp 310	Val	Asp	Leu	Val	Leu 315	Glu	Gly	Asp	Ser	Cys 320
Val	Thr	Ile	Met	Ser 325	Lys	Asp	Lys	Pro	Thr 330	Ile	Asp	Val	Lys	Met 335	Met
Asn	Met	Glu	Ala 340	Ala	Asn	Leu	Ala	Glu 345	Val	Arg	Ser	Tyr	Cys 350	Tyr	Leu
Ala	Thr	Val 355	Ser	Asp	Leu	Ser	Thr 360	Lys	Ala	Ala	Cys	Pro 365	Thr	Met	Gly
Glu	Ala 370	His	Asn	Asp	Lys	Arg 375	Ala	Asp	Pro	Ala	Phe 380	Val	Cys	Arg	Gln
Gly 385	Val	Val	Asp	Arg	Gly 390	Trp	Gly	Asn	Gly	Cys 395	Gly	LEU	Phe	Gly	Lys 400
Gly	Ser	Ile	Asp	Thr 405	Cys	Ala	Lys	Phe	Ala 410	Суѕ	Ser	Thr	Lys	Ala 415	Ile
Gly	Arg	Thr	Ile 420	Leu	Lys	Glu	Asn	Ile 425	Lys	Tyr	Glu	Val	Ala 430	Ile	Phe
Val	His	Gly	Pro	Thr	Thr	Val	Glu	Ser	His	Gly	Asn	Tyr	Ser	Thr	Gln

```
440
Val Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                                           460
                       455
Ser His Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                                      475
                   470
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                                  490
               485
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
           500
                               505
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                           520
                                               525
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                       535
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                                       555
                   550
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                                   570
               565
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
           580
                               585
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
                                              605 C
            . 600
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                       615
                                          620
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                   630 .
                                       635
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
                                   650
               645
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
            660
                               665
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                           680
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Thr Leu Lys Gly
                       695
                                           700
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
        710
                                       715
Val Gly Gly Val Phe Thr Ser Val Gly LYS Ala Val His Gln Val Phe
                                   730
               725
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                               745
Gly Leu Leu Gly Ala Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                           760
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Gly Val Leu Leu Phe
                        775
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                   790
                                       795
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
                                   810
               805
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
                               825
           820
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                           840
                                               845
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ala Val Lys Asp
                        855
                                           860
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
                   870
                                       875
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
                                    890
                885
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Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
                           905
                                           910
          900
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                                        925
                       920
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                   935
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
      950
                                 955
Lys Val Arg Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
                             970
             965
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                          985
          980
Ile Glu Ser Arg Leu Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
                       1000
                                        1005
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
                   1015
                                     1020
Asp Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
       1030
                                1035
Pro Arg Ser Asn His Asn Arg Arg Pro Gly Tyr Lys Thr Gln Asn Gln
            1045 1050
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
                1065
                                          1070
         1060
Gly Thr Thr Val Thr Leu Ser Glu Ser Cys Gly His Arg Gly Pro Ala
           1080 1085
Thr Arg Thr Thr Glu Ser Gly Lys Leu Ile Thr Asp Trp Cys Cys
                    1095
                                    1100
Arg Ser Cys Thr Leu Pro Pro Leu Arg Tyr Gln Thr Asp Ser Gly Cys
                1110
                                 1115
                                                 1120
Trp Tyr Gly Met Glu Ile Arg Pro Gln Arg His Asp Glu Lys Thr Leu
                             1130 1135
             1125
Val Gln Ser Gln Val Asn Ala Tyr Asn Ala Asp Met Ile Asp Pro Phe
                1145 1150
          1140
Gln Leu Gly Leu Leu Val Val Phe Leu Ala Thr Gln Glu Val Leu Arg
                       1160
    1155
                                       1165
Lys Arg Trp Thr Ala Lys Ile Ser Leu Pro Ala Ile Leu Ile Ala Leu
   1170 1175 1180
Leu Val Leu Val Phe Gly Gly Ile Thr Tyr Thr Asp Val Leu Arg Tyr
                1190
                                1195 1200
Val Ile Leu Val Gly Ala Ala Phe Ala Glu Ser Asn Ser Gly Gly Asp
             1205
                              1210
Val Val His Leu Ala Leu Met Ala Thr Phe Lys Ile Gln Pro Val Phe
                           1225
          1220
Met Val Ala Ser Phe Leu Lys Ala Arg Trp Thr Asn Gln Glu Asn Ile
                       1240
                                        1245
Leu Leu Met Leu Ala Ala Val Phe Phe Gln Met Ala Tyr His Asp Ala
                   1255
Arg Gln Ile Leu Leu Trp Glu Ile Pro Asp Val Leu Asn Ser Leu Ala
1265 1270 1275 1280
Val Ala Trp Met Ile Leu Arg Ala Ile Thr Phe Thr Thr Thr Ser Asn
             1285
                              1290
Val Val Pro Leu Leu Ala Leu Leu Thr Pro Gly Leu Arg Cys Leu
          1300 1305 1310
Asn Leu Asp Val Tyr Arg Ile Leu Leu Leu Met Val Gly Ile Gly Ser
       1315
                       1320
                                        1325
Leu Ile Arg Glu Lys Arg Ser Ala Ala Ala Lys Lys Lys Gly Ala Ser
                    1335
                                     1340
Leu Leu Cys Leu Ala Leu Ala Ser Thr Gly Leu Phe Asn Pro Met Ile
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1345		1350		135	5		1360
Leu Ala Ala	136	5		1370			1375
Pro Ala Thr	1380		138	5		1390)
Gly Gly Leu 139	5		1400		1	1405	
Ile Ala Gly 1410		1415	5		1420		
Asp Met Trp 1425	Ile Glu	Arg Thr 1430	Ala Asp	Ile Ser 143		Glu Ser	Asp Ala 1440
Glu Ile Thr	Gly Ser 144		Arg Val	Asp Val 1450	Arg I	Leu Asp	Asp Asp 1455
Gly Asn Phe	Gln Leu 1460	Met Asn	Asp Pro 146		Pro 1	Trp Lys 1470	
Met Leu Arg 147		Cys Leu	Ala Ile 1480	Ser Ala		Thr Pro 1485	Trp Ala
Ile Leu Pro 1490	Ser Val	Val Gly 149		Ile Thr	Leu (Gln Tyr	Thr Lys
Arg Gly Gly 1505	Val Leu	Trp Asp 1510	Thr Pro	Ser Pro		Glu Tyr	Lys Lys 1520
Gly Asp Thr	Thr Thr		Tyr Arg	Ile Met 1530	Thr A	Arg Gly	Leu Leu 1535
Gly Ser Tyr	Gln Ala 1540	Gly Ala	Gly Val 154		Glu (Gly Val 155	
Thr Leu Trp 155		Thr Lys	Gly Ala 1560	Ala Leu		Ser Gly 1565	Glu Gly
Arg Leu Asp 1570		157	5		1580		
Gly Gly Pro 1585		1590		159	5		1600
Gln Met Ile	160	5		1610			1615
Lys Pro Gly	1620		162	:5		163	0
Leu Asp Phe 163	5		1640			1645	
Gly Asp Val 1650		165	5		1660		
Ser Tyr Ile 1665		1670		167	5		1680
Pro Ala Gly	168	5		1690			1695
Leu Asp Leu	1700		170)5		171	0
Ile Ile Lys 171	.5		1720			1725	
Pro Thr Arg 1730		173	55		1740	1	
Pro Ile Arg 1745		1750		17	55		1760
Glu Ile Val	176	55		1770			1775
Ser Pro His	1780		178	35		179	0
His Phe Thr 179		Ala Ser	Tile Ala 1800	a Ala Aro	g Gly	Tyr Ile 1805	Ser Thr

```
Lys Val Glu Leu Gly Glu Ala Ala Ile Phe Met Thr Ala Thr Pro
   1810
                    1815
Pro Gly Thr Ser Asp Pro Phe Pro Glu Ser Asn Ser Pro Ile Ser Asp
                                1835
       1830
Leu Gln Thr Glu Ile Pro Asp Arg Ala Trp Asn Ser Gly Tyr Glu Trp
             1845
                             1850
Ile Thr Glu Tyr Thr Gly Lys Thr Val Trp Phe Val Pro Ser Val Lys
                1865
         1860
Met Gly Asn Glu Ile Ala Leu Cys Leu Gln Arg Ala Gly Lys Lys Val
      1875 1880
                                       1885
Val Gln Leu Asn Arg Lys Ser Tyr Glu Thr Glu Tyr Pro Lys Cys Lys
                   1895
                                   1900
Asn Asp Asp Trp Asp Phe Val Ile Thr Thr Asp Ile Ser Glu Met Gly
                                1915
                1910
Ala Asn Phe Lys Ala Ser Arg Val Ile Asp Ser Arg Lys Ser Val Lys
                             1930
                  .
                                              1935
             1925
Pro Thr Ile Ile Thr Glu Gly Glu Gly Arg Val Ile Leu Gly Glu Pro
                          1945
                                          1950
Ser Ala Val Thr Ala Ala Ser Ala Ala Gln Arg Arg Gly Arg Ile Gly
      1955 1960
                                       1965
Arg Asn Pro Ser Gln Val Gly Asp Glu Tyr Cys Tyr Gly Gly His Thr
                   1975
                         1980
Asn Glu Asp Asp Ser Asn Phe Ala His Trp Thr Glu Ala Arg Ile Met
    1990 1995 2000
Leu Asp Asn Ile Asn Met Pro Asn Gly Leu Ile Ala Gln Phe Tyr Gln
                             2010
             2005
Pro Glu Arg Glu Lys Val Tyr Thr Met Asp Gly Glu Tyr Arg Leu Arg
          2020
                                           2030
                          2025
Gly Glu Glu Arg Lys Asn Phe Leu Glu Leu Leu Arg Thr Ala Asp Leu
                      2040
      2035
                                        2045
Pro Val Trp Leu Ala Tyr Lys Val Ala Ala Ala Gly Val Ser Tyr His
   2050 2055
                                    2060
Asp Arg Arg Trp Cys Phe Asp Gly Pro Arg Thr Asn Thr Ile Leu Glu
                2070
                                2075 2080
Asp Asn Asn Glu Val Glu Val Ile Thr Lys Leu Gly Glu Arg Lys Ile
            2085
                             2090
Leu Arg Pro Arg Trp Ile Asp Ala Arg Val Tyr Ser Asp His Gln Ala
         2100 2105
                                           2110
Leu Lys Ala Phe Lys Asp Phe Ala Ser Gly Lys Arg Ser Gln Ile Gly
                       2120
                                        2125
Leu Ile Glu Val Leu Gly Lys Met Pro Glu His Phe Met Gly Lys Thr
                    2135
                                     2140
Trp Glu Ala Leu Asp Thr Met Tyr Val Val Ala Thr Ala Glu Lys Gly
                2150
                                 2155
Gly Arg Ala His Arg Met Ala Leu Glu Glu Leu Pro Asp Ala Leu Gln
             2.165
                              2170
Thr Ile Ala Leu Ile Ala Leu Leu Ser Val Met Thr Met Gly Val Phe
          2180 2185
                                           2190
Phe Leu Leu Met Gln Arg Lys Gly Ile Gly Lys Ile Gly Leu Gly Gly
                             2205
                       2200
     2195
Ala Val Leu Gly Val Ala Thr Phe Phe Cys Trp Met Ala Glu Val Pro
                         2220
                   2215
Gly Thr Lys Ile Ala Gly Met Leu Leu Leu Ser Leu Leu Leu Met Ile
                                 2235
                 2230
Val Leu Ile Pro Glu Pro Glu Lys Gln Arg Ser Gln Thr Asp Asn Gln
              2245
                              2250
Leu Ala Val Phe Leu Ile Cys Val Met Thr Leu Val Ser Ala Val Ala
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2260		2265	2270
Ala Asn Glu Met Gly 2275	Trp Leu Asp 228		Asp Ile Ser Ser 2285
Leu Phe Gly Gln Arc	g Ile Glu Val 2295	Lys Glu Asn Phe 230	
Phe Leu Leu Asp Let 2305	Arg Pro Ala 2310	Thr Ala Trp Ser 2315	Leu Tyr Ala Val 2320
Thr Thr Ala Val Let 23:	25	2330	2335
Tyr Ile Asn Thr Set 2340		2345	2350
Phe Thr Leu Ala Are 2355	236	0	2365
Leu Leu Leu Ala Al 2370	2375	238	0
Val Thr Ala Ala Th. 2385	2390	2395	2400
Gly Trp Gln Ala Gl 24)5	2410	2415
Gly Ile Met Lys As 2420	***	2425	2430
Pro Glu Leu Glu Ar 2435	244	0	2445
Ile Met Leu Ile Le 2450	2455	246	0
Val Lys Thr Val Ar 2465	2470	2475	2480
Thr Leu Trp Glu As	35	2490	2495
Ile Gly Leu Cys Hi 2500		2505	2510
Ile Thr Trp Thr Le 2515	252	0	2525
Gly Gly Ala Lys Gl 2530	2535	254	0
Asn Gln Met Thr Ly 2545	2550	2555	2560
Ile Glu Val Asp Ar 25	65	2570	2575
Val Thr Gly Gly Hi 2580		2585	2590
Leu Val Glu Arg Ar 2595	260	0	2605
Gly Cys Gly Arg Gl 2610	2615	262	0
Val Gln Glu Val Ar 2625	2630	2635	2640
Pro Gln Leu Val Gl	45	2650	2655
Gly Val Asp Val Ph 2660		2665	2670
Cys Asp Ile Gly Gl 2675	268	0	2685
Thr Ile Arg Val Le 2690	2695	270	0
Arg Glu Phe Cys Va 2705	I Lys Val Let 2710	. Cys Pro Tyr Met 2715	Pro Lys Val 11e 2720

```
Glu Lys Met Glu Leu Gln Arg Arg Tyr Gly Gly Gly Leu Val Arg
              2725
                               2730
Asn Pro Leu Ser Arg Asn Ser Thr His Glu Met Tyr Trp Val Ser Arg
                           2745
                                             2750
          2740
Ala Ser Gly Asn Val Val His Ser Val Asn Met Thr Ser Gln Val Leu
                       2760
Leu Gly Arg Met Glu Lys Arg Thr Trp Lys Gly Pro Gln Tyr Glu Glu
   2770 2775
                                      2780
Asp Val Asn Leu Gly Ser Gly Thr Arg Ala Val Gly Lys Pro Leu Leu
     2790 2795
Asn Ser Asp Thr Ser Lys Ile Lys Asn Arg Ile Glu Arg Leu Arg Arg
             2805
                              2810
                                                2815
Glu Tyr Ser Ser Thr Trp His His Asp Glu Asn His Pro Tyr Arg Thr
                           2825
                                             2830
          2820
Trp Asn Tyr His Gly Ser Tyr Asp Val Lys Pro Thr Gly Ser Ala Ser
       2835
                        2840
                                          2845
Ser Leu Val Asn Gly Val Val Arg Leu Leu Ser Lys Pro Trp Asp Thr
                    2855
                                     2860
Ile Thr Asn Val Thr Thr Met Ala Met Thr Asp Thr Thr Pro Phe Gly
                 2870
                                  2875
Gln Gln Arg Val Phe Lys Glu Lys Val Asp Thr Lys Ala Pro Glu Pro
             2885 2890
                                                2895
Pro Glu Gly Val Lys Tyr Val Leu Asn Glu Thr Thr Asn Trp Leu Trp
          2900 2905 2910
Ala Phe Leu Ala Arg Glu Lys Arg Pro Arg Met Cys Ser Arg Glu Glu
       2915
                       2920
                                         2925
Phe Ile Arg Lys Val Asn Ser Asn Ala Ala Leu Gly Ala Met Phe Glu
                     2935
                                      2940
Glu Gln Asn Gln Trp Arg Ser Ala Arg Glu Ala Val Glu Asp Pro Lys
                 2950
                                   2955
Phe Trp Glu Met Val Asp Glu Glu Arg Glu Ala His Leu Arg Gly Glu
             2965
                              2970
Cys His Thr Cys Ile Tyr Asn Met Met Gly Lys Arg Glu Lys Lys Pro
          2980
                           2985
Gly Glu Phe Gly Lys Ala Lys Gly Ser Arg Ala Ile Trp Phe Met Trp
                        3000 3005
Leu Gly Ala Arg Phe Leu Glu Phe Glu Ala Leu Gly Phe Leu Asn Glu
                    3015
                                      3020
Asp His Trp Leu Gly Arg Lys Asn Ser Gly Gly Val Glu Gly Leu
                 3030 3035
Gly Leu Gln Lys Leu Gly Tyr Ile Leu Arg Glu Val Gly Thr Arg Pro
              3045
                               3050
                                                 3055
Gly Gly Lys Ile Tyr Ala Asp Asp Thr Ala Gly Trp Asp Thr Arg Ile
          3060
                            3065
                                             3070
Thr Arg Ala Asp Leu Glu Asn Glu Ala Lys Val Leu Glu Leu Asp
                        3080
                                          3085
Gly Glu His Arg Arg Leu Ala Arg Ala Ile Ile Glu Leu Thr Tyr Arg
                                      3100
                    3095
His Lys Val Val Lys Val Met Arg Pro Ala Ala Asp Gly Arg Thr Val
3105 3110 3115 3120
Met Asp Val Ile Ser Arg Glu Asp Gln Arg Gly Ser Gly Gln Val Val
                   3130
              3125
Thr Tyr Ala Leu Asn Thr Phe Thr Asn Leu Ala Val Gln Leu Val Arg
                            3145
          3140
Met Met Glu Gly Glu Gly Val Ile Gly Pro Asp Asp Val Glu Lys Leu
                         3160
                                          3165
Thr Lys Gly Lys Gly Pro Lys Val Arg Thr Trp Leu Phe Glu Asn Gly
```

Glu Glu Arg Leu Ser Arg Met Ala Val Ser Gly Asp Asp Cys Val Val Lys Pro Leu Asp Asp Arg Phe Ala Thr Ser Leu His Phe Leu Asn Ala Met Ser Lys Val Arg Lys Asp Ile Gln Glu Trp Lys Pro Ser Thr Gly Trp Tyr Asp Trp Gln Gln Val Pro Phe Cys Ser Asn His Phe Thr Glu Leu Ile Met Lys Asp Gly Arg Thr Leu Val Val Pro Cys Arg Gly Gln Asp Glu Leu Val Gly Arg Ala Arg Ile Ser Pro Gly Ala Gly Trp Asn Val Arg Asp Thr Ala Cys Leu Ala Lys Ser Tyr Ala Gln Met Trp Leu Leu Leu Tyr Phe His Arg Arg Asp Leu Arg Leu Met Ala Asn Ala Ile Cys Ser Ala Val Pro Val Asn Trp Val Pro Thr Gly Arg Thr Thr Trp Ser Ile His Ala Gly Gly Glu Trp Met Thr Thr Glu Asp Met Leu Glu Val Trp Asn Arg Val Trp Ile Glu Glu Asn Glu Trp Met Glu Asp Lys 3355 3360 Thr Pro Val Glu Lys Trp Ser Asp Val Pro Tyr Ser Gly Lys Arg Glu Asp Ile Trp Cys Gly Ser Leu Ile Gly Thr Arg Ala Arg Ala Thr Trp Ala Glu Asn Ile Gln Val Ala Ile Asn Gln Val Arg Ala Ile Ile Gly Asp Glu Lys Tyr Val Asp Tyr Met Ser Ser Leu Lys Arg Tyr Glu Asp Thr Thr Leu Val Glu Asp Thr Val Leu

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Met Ser Lys Lys Pro Gly Gly Pro Gly Lys Ser Arg Ala Val Asn Met Leu Lys Arg Gly Met Pro Arg Val Leu Ser Leu Ile Gly Leu Lys Arg Ala Met Leu Ser Leu Ile Asp Gly Lys Gly Pro Ile Arg Phe Val Leu Ala Leu Leu Ala Phe Phe Arg Phe Thr Ala Ile Ala Pro Thr Arg Ala Val Leu Asp Arg Trp Arg Gly Val Asn Lys Gln Thr Ala Met Lys His Leu Leu Ser Phe Lys Lys Glu Leu Gly Thr Leu Thr Ser Ala Ile Asn Arg Arg Ser Ser Lys Glu Lys Lys Arg Gly Gly Lys Thr Gly Ile Ala Val Met Ile Gly Leu Ile Ala Ser Val Gly Ala Val Thr Leu Ser Asn Phe Gln Gly Lys Val Met Met Thr Val Asn Ala Thr Asp Val Thr Asp Val Ile Thr Ile Pro Thr Ala Ala Gly Lys Asn Leu Cys Ile Val Arg Ala Met Asp Val Gly Tyr Met Cys Asp Asp Thr Ile Thr Tyr Glu Cys

```
165
                                   170
Pro Val Leu Ser Ala Gly Asn Asp Pro Glu Asp Ile Asp Cys Trp Cys
            180
                               185
Thr Lys Ser Ala Val Tyr Val Arg Tyr Gly Arg Cys Thr Lys Thr Arg
                           200
His Ser Arg Arg Ser Arg Ser Leu Thr Val Gln Thr His Gly Glu
                       215
Ser Thr Leu Ala Asn Lys Lys Gly Ala Trp Met Asp Ser Thr Lys Ala
                  230
                                       235
Thr Arg Tyr Leu Val Lys Thr Glu Ser Trp Ile Leu Arg Asn Pro Gly
                                   250
               245
Tyr Ala Leu Val Ala Ala Val Ile Gly Trp Met Leu Gly Ser Asn Thr
                               265
Met Gln Arg Val Val Phe Val Val Leu Leu Leu Val Ala Pro Ala
                            280
Tyr Ser Phe Asn Cys Leu Gly Met Ser Asn Arg Asp Phe Leu Glu Gly
                        295
Val Ser Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys
                                       315
                   310
Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val Lys Met Met
                                   330
                325
Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr Cys Tyr Leu
                                345
Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro Thr Met Gly
                            360
Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val Cys Arg Gln
                        375
Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly LEU Phe Gly Lys
                                        395
                    390
Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr Lys Ala Ile
                                    410
                405
Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val Ala Ile Phe
                               425
Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Ser Thr Gln
                           440
                                               445
       435
Val Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                       455
                                           460
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                   470
                                        475
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                                    490
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                                505
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                            520
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                        535
                                           540
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                   550
                                        555
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                                    570
                565
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
                               585
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
                            600
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                                            620
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Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                    630
                                        635
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
                                    650
                645
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
           660
                               665
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                           680
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Thr Leu Lys Gly
                                           700
                       695
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
                                       715
                   710
Val Gly Gly Val Phe Thr Ser Val Gly LYS Ala Val His Gln Val Phe
                                    730
                725
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                                745
Gly Leu Leu Gly Ala Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                           760
                                               765
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Gly Val Leu Leu Phe
                                           780
                        775
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                                        795
                    790
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
               805
                                   810
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
                                825
            820
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                            840
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ala Val Lys Asp
                                            860
                        855
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
                   870
                                       875
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
                                    890
                885
Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
                                905
            900
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                                                925
                            920
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                        935
                                            940
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
                    950
                                        955
Lys Val Arg Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
                                    970
                965
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                                985
            980
Ile Glu Ser Arg Leu Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
                                               1005
                            1000
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
                       1015
                                           1020
Asp Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
                   1030
                                       1035
Pro Arg Ser Asn His Asn Arg Arg Pro Gly Tyr Lys Thr Gln Asn Gln
                                    1050
                1045
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
            1060
                                1065
Gly Thr Thr Val Thr Leu Ser Glu Ser Cys Gly His Arg Gly Pro Ala
```

	1075	<u>,</u>				1080)				1085	ó		
Thr Arg 1090		Thr	Thr		Ser 1095	-	Lys	Leu	Ile	Thr 1100		Trp	Cys	Cys
Arg Ser 1105	Cys	Thr		Pro 1110		Leu	Arg	Tyr	Gln 1115		Asp	Ser		Cys .120
Trp Tyr	Gly	Met	Glu 1125		Arg	Pro		Arg 1130		Asp	Glu	Lys	Thr 1135	
Val Gln		1140)				1145	;)				1150)	
Gln Leu	Gly 1155		Leu	Val	Val	Phe 1160		Ala	Thr	Gln	Glu 1165		Leu	Arg
Lys Arg 1170)			_	1175	;				1180)			
Leu Val 1185				1190)				1195	5			1	1200
Val Ile	Leu	Val	Gly 1205		Ala	Phe	Ala	Glu 1210		Asn	Ser	Gly	Gly 1215	
Val Val	His	Leu 1220		Leu	Met	Ala	Thr 1225		Lys	Ile	Gln	Pro 1230		Phe
Met Val	Ala 1235		Phe	Leu	Lys	Ala 1240	_	Trp	Thr	Asn	Gln 1245		Asn	Ile
Leu Leu 1250		Leu	Ala	Ala	Val 1255		Phe	Gln	Met	Ala 1260		His	Asp	Ala
Arg Gln 1265	Ile	Leu	Leu	Trp 1270		Ile	Pro	Asp	Val 1275		Asn	Ser		Ala L280
Val Ala	Trp	Met	Ile 1285		Arg	Ala	Ile	Thr 1290		Thr	Thr	Thr	Ser 1295	
Val Val	Val	Pro 1300		Leu	Ala	Leu	Leu 1305		Pro	Gly	Leu	Arg 1310	-	Leu
Asn Leu	Asp 1315		Tyr	Arg	Ile	Leu 1320		Leu	Met	Val	Gly 1325		Gly	Ser
Leu Ile 1330	-	Glu	Lys	Arg	Ser 1335		Ala	Ala	Lys	Lys 1340		Gly	Ala	Ser
Leu Leu 1345	Cys	Leu	Ala	Leu 1350		Ser	Thr	Gly	Leu 135		Asn	Pro		Ile 1360
Leu Ala			1365	5				1370)				1375	5
Pro Ala		1380)				1385	5				1390)	
Gly Gly	1395	5				1400)				1405	5		
Ile Ala 141	ס -				1415	5				1420	o _	_		
Asp Met 1425	Trp	Ile	Glu	Arg 1430		Ala	Asp	Ile	Ser 143	_	Glu	Ser		Ala 1440
Glu Ile	Thr	Gly	Ser 144		Glu	Arg	Val	Asp 1450		Arg	Leu	Asp	Asp 145	
Gly Asn		1460)			-	1465	5				1470)	
Met Leu	147	5		_		1480	C				1485	5	-	
Ile Leu 149		Ser	Val	Val	Gly 149		Trp	Ile	Thr	Leu 150		Tyr	Thr	Lys
Arg Gly 1505	_			1510)				151	5			:	1520
Gly Asp	Thr	Thr	Thr 152		Val	Tyr	Arg	Ile 153		Thr	Arg	Gly	Leu 153	

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Gly Ser Tyr Gln Ala Gly Ala Gly Val Met Val Glu Gly Val Phe His
          1540
                          1545
Thr Leu Trp His Thr Thr Lys Gly Ala Ala Leu Met Ser Gly Glu Gly
            1560
                                       1565
Arg Leu Asp Pro Tyr Trp Gly Ser Val Lys Glu Asp Arg Leu Cys Tyr
                                   1580
                  1575
Gly Gly Pro Trp Lys Leu Gln His Lys Trp Asn Gly Gln Asp Glu Val
1585 1590 1595 1600
Gln Met Ile Val Val Glu Pro Gly Lys Asn Val Lys Asn Val Gln Thr
                            1610 1615
            1605
Lys Pro Gly Val Phe Lys Thr Pro Glu Gly Glu Ile Gly Ala Val Thr
          1620
                         1625
Leu Asp Phe Pro Thr Gly Thr Ser Gly Ser Pro Ile Val Asp Lys Asn
                            •
                                       1645
                       1640
Gly Asp Val Ile Gly Leu Tyr Gly Asn Gly Val Ile Met Pro Asn Gly
                   1655
                                    1660
Ser Tyr Ile Ser Ala Ile Val Gln Gly Glu Arg Met Asp Glu Pro Ile
1665 1670
                                1675
Pro Ala Gly Phe Glu Pro Glu Met Leu Arg Lys Lys Gln Ile Thr Val
                   1690
       1685
Leu Asp Leu His Pro Gly Ala Gly Lys Thr Arg Arg Ile Leu Pro Gln
         1700 1705 1710
Ile Ile Lys Glu Ala Ile Asn Arg Arg Leu Arg Thr Ala Val Leu Ala
      1715 1720
                            1725
Pro Thr Arq Val Val Ala Ala Glu Met Ala Glu Ala Leu Arg Gly Leu
                   1735
                                    1740
Pro Ile Arg Tyr Gln Thr Ser Ala Val Pro Arg Glu His Asn Gly Asn
                1750
                                1755
Glu Ile Val Asp Val Met Cys His Ala Thr Leu Thr His Arg Leu Met
            1765
                             1770
                                              1775
Ser Pro His Arg Val Pro Asn Tyr Asn Leu Phe Val Met Asp Glu Ala
         1780 1785
His Phe Thr Asp Pro Ala Ser Ile Ala Ala Arg Gly Tyr Ile Ser Thr
      1795
                      1800 1805
Lys Val Glu Leu Gly Glu Ala Ala Ile Phe Met Thr Ala Thr Pro
   1810 1815 1820
Pro Gly Thr Ser Asp Pro Phe Pro Glu Ser Asn Ser Pro Ile Ser Asp
                1830 1835 1840
Leu Gln Thr Glu Ile Pro Asp Arg Ala Trp Asn Ser Gly Tyr Glu Trp
             1845
                             1850
Ile Thr Glu Tyr Thr Gly Lys Thr Val Trp Phe Val Pro Ser Val Lys
                          1865
          1860
Met Gly Asn Glu Ile Ala Leu Cys Leu Gln Arg Ala Gly Lys Lys Val
                       1880
                                        1885
      1875
Val Gln Leu Asn Arg Lys Ser Tyr Glu Thr Glu Tyr Pro Lys Cys Lys
                                    1900
                   1895
Asn Asp Asp Trp Asp Phe Val Ile Thr Thr Asp Ile Ser Glu Met Gly
                1910 1915 1920
Ala Asn Phe Lys Ala Ser Arg Val Ile Asp Ser Arg Lys Ser Val Lys
                             1930
             1925
Pro Thr Ile Ile Thr Glu Gly Glu Gly Arg Val Ile Leu Gly Glu Pro
                               1950
                          1945
Ser Ala Val Thr Ala Ala Ser Ala Ala Gln Arg Arg Gly Arg Ile Gly
                       1960
                                        1965
       1955
Arg Asn Pro Ser Gln Val Gly Asp Glu Tyr Cys Tyr Gly Gly His Thr
                    1975
                                     1980
Asn Glu Asp Asp Ser Asn Phe Ala His Trp Thr Glu Ala Arg Ile Met
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1985	1990	0	1995	2000
Leu Asp Asn	Ile Asn Met 2005	Pro Asn Gly	Leu Ile Ala 2010	Gln Phe Tyr Gln 2015
_	2020	202	5	Tyr Arg Leu Arg 2030
2035	5	2040		Thr Ala Asp Leu 2045
2050	_	2055	2060	
Asp Arg Arg 2065	Trp Cys Phe 2070		Arg Thr Asn 2075	Thr Ile Leu Glu 2080
_	2085		2090	Glu Arg Lys Ile 2095
	2100	210	5	Asp His Gln Ala 2110
2115	5	2120		Ser Gln Ile Gly 2125
2130		2135	2140	
2145	215	0	2155	Ala Glu Lys Gly 2160
	2165		2170	Asp Ala Leu Gln 2175
Thr Ile Ala	Leu Ile Ala 2180	Leu Leu Ser 218		Met Gly Val Phe 2190
Phe Leu Leu 219	_	Lys Gly Ile 2200	Gly Lys Ile	Gly Leu Gly Gly 2205
2210	-	2215	2220	
Gly Thr Lys 2225	Ile Ala Gly 223			Leu Leu Met Ile 2240
Val Leu Ile	Pro Glu Pro 2245	Glu Lys Gln	Arg Ser Gln 2250	Thr Asp Asn Gln 2255
Leu Ala Val	Phe Leu Ile 2260	Cys Val Met 226		Ser Ala Val Ala 2270
Ala Asn Glu 227		Leu Asp Lys 2280	Thr Lys Ser	Asp Ile Ser Ser 2285
Leu Phe Gly 2290	Gln Arg Ile	Glu Val Lys 2295	Glu Asn Phe 230	Ser Met Gly Glu
Phe Leu Leu 2305	Asp Leu Arg 231		Ala Trp Ser 2315	Leu Tyr Ala Val 2320
Thr Thr Ala	Val Leu Thr 2325	Pro Leu Leu	Lys His Leu 2330	Ile Thr Ser Asp 2335
Tyr Ile Asn	Thr Ser Leu 2340	Thr Ser Ile 234		Ala Ser Ala Leu 2350
Phe Thr Leu 235	-	Phe Pro Phe 2360	Val Asp Val	Gly Val Ser Ala 2365
Leu Leu Leu 2370	Ala Ala Gly	Cys Trp Gly 2375	Gln Val Thr 238	Leu Thr Val Thr
Val Thr Ala 2385	Ala Thr Leu 239		His Tyr Ala 2395	Tyr Met Val Pro 2400
Gly Trp Gln	Ala Glu Ala 2405	Met Arg Ser	Ala Gln Arg 2410	Arg Thr Ala Ala 2415
Gly Ile Met	Lys Asn Ala 2420	Val Val Asp 242		Ala Thr Asp Val 2430
Pro Glu Leu 243	-	Thr Pro Ile 2440	Met Gln Lys	Lys Val Gly Gln 2445

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Ile Met Leu Ile Leu Val Ser Leu Ala Ala Val Val Asn Pro Ser
   2450
                  2455
                                  2460
Val Lys Thr Val Arg Glu Ala Gly Ile Leu Ile Thr Ala Ala Ala Val
2465 2470 2475
Thr Leu Trp Glu Asn Gly Ala Ser Ser Val Trp Asn Ala Thr Thr Ala
                           2490
           2485
Ile Gly Leu Cys His Ile Met Arg Gly Gly Trp Leu Ser Cys Leu Ser
      2500 2505 2510
Ile Thr Trp Thr Leu Ile Lys Asn Met Glu Lys Pro Gly Leu Lys Arg
      2515 2520
                                    2525
Gly Gly Ala Lys Gly Arg Thr Leu Gly Glu Val Trp Lys Glu Arg Leu
                                  2540
                  2535
Asn Gln Met Thr Lys Glu Glu Phe Thr Arg Tyr Arg Lys Glu Ala Ile
                               2555
               2550
Ile Glu Val Asp Arg Ser Ala Ala Lys His Ala Arg Lys Glu Gly Asn
                           2570
                                           2575
            2565
Val Thr Gly Gly His Pro Val Ser Arg Gly Thr Ala Lys Leu Arg Trp
        2580 2585
Leu Val Glu Arg Arg Phe Leu Glu Pro Val Gly Lys Val Ile Asp Leu
     2595 2600
                                     2605
Gly Cys Gly Arg Gly Gly Trp Cys Tyr Tyr Met Ala Thr Gln Lys Arg
 2610 2615 2620
Val Gln Glu Val Arg Gly Tyr Thr Lys Gly Gly Pro Gly His Glu Glu
              2630 2635 2640
Pro Gln Leu Val Gln Ser Tyr Gly Trp Asn Ile Val Thr Met Lys Ser
            2645 2650
Gly Val Asp Val Phe Tyr Arg Pro Ser Glu Cys Cys Asp Thr Leu Leu
                         2665
                                         2670
Cys Asp Ile Gly Glu Ser Ser Ser Ala Glu Val Glu His Arg
     2675 2680
                                     2685
Thr Ile Arg Val Leu Glu Met Val Glu Asp Trp Leu His Arg Gly Pro
                  2695 2700
Arg Glu Phe Cys Val Lys Val Leu Cys Pro Tyr Met Pro Lys Val Ile
2705 2710 2715 2720
Glu Lys Met Glu Leu Leu Gln Arg Arg Tyr Gly Gly Gly Leu Val Arg
            2725 2730 2735
Asn Pro Leu Ser Arg Asn Ser Thr His Glu Met Tyr Trp Val Ser Arg
         2740 2745 2750
Ala Ser Gly Asn Val Val His Ser Val Asn Met Thr Ser Gln Val Leu
                      2760
      2755
                                     2765
Leu Gly Arg Met Glu Lys Arg Thr Trp Lys Gly Pro Gln Tyr Glu Glu
                   2775
                                  2780
Asp Val Asn Leu Gly Ser Gly Thr Arg Ala Val Gly Lys Pro Leu Leu
               2790
                               2795
Asn Ser Asp Thr Ser Lys Ile Lys Asn Arg Ile Glu Arg Leu Arg Arg
            2805 2810
Glu Tyr Ser Ser Thr Trp His His Asp Glu Asn His Pro Tyr Arg Thr
      2820 2825 2830
Trp Asn Tyr His Gly Ser Tyr Asp Val Lys Pro Thr Gly Ser Ala Ser
                                     2845
   2835 2840
Ser Leu Val Asn Gly Val Val Arg Leu Leu Ser Lys Pro Trp Asp Thr
                  2855 2860
Ile Thr Asn Val Thr Thr Met Ala Met Thr Asp Thr Thr Pro Phe Gly
                2870
                               2875
Gln Gln Arg Val Phe Lys Glu Lys Val Asp Thr Lys Ala Pro Glu Pro
             2885
                            2890
Pro Glu Gly Val Lys Tyr Val Leu Asn Glu Thr Thr Asn Trp Leu Trp
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2900		2905	2910
Ala Phe Leu Ala Arg 2915	Glu Lys Arg 2920		Ser Arg Glu Glu 2925
Phe Ile Arg Lys Val 2930	Asn Ser Asn 2935	Ala Ala Leu Gly 2940	
Glu Gln Asn Gln Trp 2945	2950	2955	2960
Phe Trp Glu Met Val 296	5	29.70	. 2975
Cys His Thr Cys Ile 2980		2985	2990
Gly Glu Phe Gly Lys 2995	3000)	3005
Leu Gly Ala Arg Phe 3010	3015	3020)
Asp His Trp Leu Gly 3025	3030	3035	3040
Gly Leu Gln Lys Leu 304	5	3050	3055
Gly Gly Lys Ile Tyr 3060		3065.	. 3070
Thr Arg Ala Asp Leu 3075	3080)	3085
Gly Glu His Arg Arg 3090	. 3095	3100)
His Lys Val Val Lys 3105 Met Asp Val Ile Ser	3110	3115	3120
312 Thr Tyr Ala Leu Asn	5	3130	3135
3140		3145	3150
Met Met Glu Gly Glu 3155	316	0	3165
Thr Lys Gly Lys Gly 3170	3175	3180)
Glu Glu Arg Leu Ser 3185	3190	3195	3200
Lys Pro Leu Asp Asp 320	5	3210	3215
Met Ser Lys Val Arg 3220 Trp Tyr Asp Trp Gln	•	3225	3230
3235 Leu Ile Met Lys Asp	324	0	3245 .
3250	3255	326	
Asp Glu Leu Val Gly 3265	3270	3275	3280
Val Arg Asp Thr Ala	5	3290	3295
Leu Leu Tyr Phe His		3305	3310
Cys Ser Ala Val Pro 3315	332	0	3325
Ser Ile His Ala Gly 3330	3335	334	0
Val Trp Asn Arg Val 3345	3350	3355	3360

West Nile Virus - AF404755

Met Ser Lys Lys Pro Gly Gly Pro Gly Lys Ser Arg Ala Val Asn Met 10 Leu Lys Arg Gly Met Pro Arg Val Leu Ser Leu Ile Gly Leu Lys Arg 25 20 Ala Met Leu Ser Leu Ile Asp Gly Lys Gly Pro Ile Arg Phe Val Leu 40 Ala Leu Leu Ala Phe Phe Arg Phe Thr Ala Ile Ala Pro Thr Arg Ala 55 Val Leu Asp Arg Trp Arg Gly Val Asn Lys Gln Thr Ala Met Lys His Leu Leu Ser Phe Lys Lys Glu Leu Gly Thr Leu Thr Ser Ala Ile Asn 8.5 90 Arg Arg Ser Ser Lys Gln Lys Lys Arg Gly Gly Lys Thr Gly Ile Ala 105 Val Met Ile Gly Leu Ile Ala Ser Val Gly Ala Val Thr Leu Ser Asn 120 Phe Gln Gly Lys Val Met Met Thr Val Asn Ala Thr Asp Val Thr Asp 135 140 Val Ile Thr Ile Pro Thr Ala Ala Gly Lys Asn Leu Cys Ile Val Arg 150 155 Ala Met Asp Val Gly Tyr Met Cys Asp Asp Thr Ile Thr Tyr Glu Cys 165 170 Pro Val Leu Ser Ala Gly Asn Asp Pro Glu Asp Ile Asp Cys Trp Cys 180 185 Thr Lys Ser Ala Val Tyr Val Arg Tyr Gly Arg Cys Thr Lys Thr Arg 200 205 His Ser Arg Arg Ser Arg Ser Leu Thr Val Gln Thr His Gly Glu 215 220 Ser Thr Leu Ala Asn Lys Lys Gly Ala Trp Met Asp Ser Thr Lys Ala 230 235 Thr Arg Tyr Leu Val Lys Thr Glu Ser Trp Ile Leu Arg Asn Pro Gly 250 245 Tyr Ala Leu Val Ala Ala Val Ile Gly Trp Met Leu Gly Ser Asn Thr 265 Met Gln Arg Val Val Phe Val Val Leu Leu Leu Val Ala Pro Ala 280 285 Tyr Ser Phe Asn Cys Leu Gly Met Ser Asn Arg Asp Phe Leu Glu Gly 295 300 Val Ser Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys 310 315 Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val Lys Met Met 330 325 Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr Cys Tyr Leu 345 350

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Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro Thr Met Gly
                            360
Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val Cys Arg Gln
                       375
                                           380
Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly LEU Phe Gly Lys
                                       395
                    390
Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr Lys Ala Ile
                                    410
               405
Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val Ala Ile Phe
                               425
           420
Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Ser Thr Gln
                            440
        435
Val Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                        455
                                            460
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                                        475
                    470
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                                   490
               485
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                               505
           500
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                            520
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                                           540
                       535
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                    550
                                        555
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                                    570
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
                               585
            580
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
                                                605 C
              600
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                                           620
                        615
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                                        635
                    630
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
                645
                                    650
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
                                665
          . 660
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                            680
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Thr Leu Lys Gly
                                            700
                        695
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
                   710
                                        715
Val Gly Gly Val Phe Thr Ser Val Gly|{
m {f LYS}}|Ala Val His Gln Val Phe
                                    730
                725
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                                745
                                                    750
            740
Gly Leu Leu Gly Ala Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                            760
                                               765
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Gly Val Leu Leu Phe
                                            780
                        775
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                    790
                                        795
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
```

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805
                                810
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
           820
                             825
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                        840
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ala Val Lys Asp
                                       860
                     855
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
              870
                                   875
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
                                890
              885
Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
                             905
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                         920
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                      935
                                        940
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
                 950
                                    955
Lys Val Arg Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
                                970
              965
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                            985
Ile Glu Ser Arg Leu Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
                         1000 1005
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
   1010
                     1015
                                        1020
Asp Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
                  1030
                                    1035
Pro Arg Ser Asn His Asn Arg Arg Pro Gly Tyr Lys Thr Gln Asn Gln
                                1050
              1045
                                                   1055
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
                            1065
Gly Thr Thr Val Thr Leu Ser Glu Ser Cys Gly His Arg Gly Pro Ala
                         1080
                                           1085
      1075
Thr Arg Thr Thr Glu Ser Gly Lys Leu Ile Thr Asp Trp Cys Cys
                     1095
                                       1100
Arg Ser Cys Thr Leu Pro Pro Leu Arg Tyr Gln Thr Asp Ser Gly Cys
     1110 1115
Trp Tyr Gly Met Glu Ile Arg Pro Gln Arg His Asp Glu Lys Thr Leu
              1125
                                1130
Val Gln Ser Gln Val Asn Ala Tyr Asn Ala Asp Met Ile Asp Pro Phe
                             1145
Gln Leu Gly Leu Leu Val Val Phe Leu Ala Thr Gln Glu Val Leu Arg
       1155
                         1160
                                           1165
Lys Arg Trp Thr Ala Lys Ile Ser Met Pro Ala Ile Leu Ile Ala Leu
                     1175
Leu Val Leu Val Phe Gly Gly Ile Thr Tyr Thr Asp Val Leu Arg Tyr
                                   1195 1200
                 1190
Val Ile Leu Val Gly Ala Ala Phe Ala Glu Ser Asn Ser Gly Gly Asp
              1205
                                1210
Val Val His Leu Ala Leu Met Ala Thr Phe Lys Ile Gln Pro Val Phe
           1220
                             1225
Met Val Ala Ser Phe Leu Lys Ala Arg Trp Thr Asn Gln Glu Asn Ile
                         1240
                                            1245
Leu Leu Met Leu Ala Ala Val Phe Phe Gln Met Ala Tyr His Asp Ala
                      1255
                                        1260
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Arg Gln Ile Leu Leu Trp Glu Ile Pro Asp Val Leu Asn Ser Leu Ala
         1270
                      1275
1265
Val Ala Trp Met Ile Leu Arg Ala Ile Thr Phe Thr Thr Thr Ser Asn
                  1290
Val Val Val Pro Leu Leu Ala Leu Leu Thr Pro Gly Leu Arg Cys Leu
         1300 1305
Asn Leu Asp Val Tyr Arg Ile Leu Leu Met Val Gly Ile Gly Ser
      1315 1320
Leu Ile Arg Glu Lys Arg Ser Ala Ala Ala Lys Lys Gly Ala Ser
                       1340
   1330 1335
Leu Leu Cys Leu Ala Leu Ala Ser Thr Gly Leu Phe Asn Pro Met Ile
                               1355
                1350
Leu Ala Ala Gly Leu Ile Ala Cys Asp Pro Asn Arg Lys Arg Gly Trp
                                            1375
                             1370
             1365
Pro Ala Thr Glu Val Met Thr Ala Val Gly Leu Met Phe Ala Ile Val
                         1385
                                          1390
         1380
Gly Gly Leu Ala Glu Leu Asp Ile Asp Ser Met Ala Ile Pro Met Thr
            1400
                                      1405
Ile Ala Gly Leu Met Phe Ala Ala Phe Val Ile Ser Gly Lys Ser Thr
   1410 1415
                                  1420
Asp Met Trp Ile Glu Arg Thr Ala Asp Ile Ser Trp Glu Ser Asp Ala
     1430 1435 1440
Glu Ile Thr Gly Ser Ser Glu Arg Val Asp Val Arg Leu Asp Asp Asp
            1445 1450 1455
Gly Asn Phe Gln Leu Met Asn Asp Pro Gly Ala Pro Trp Lys Ile Trp
         1460 1465
Met Leu Arg Met Val Cys Leu Ala Ile Ser Ala Tyr Thr Pro Trp Ala
                      1480
      1475
                                       1485
Ile Leu Pro Ser Val Val Gly Phe Trp Ile Thr Leu Gln Tyr Thr Lys
                  1495
                                   1500
Arg Gly Gly Val Leu Trp Asp Thr Pro Ser Pro Lys Glu Tyr Lys Lys
1505 1510 1515 1520
Gly Asp Thr Thr Thr Gly Val Tyr Arg Ile Met Thr Arg Gly Leu Leu
            1525 1530
Gly Ser Tyr Gln Ala Gly Ala Gly Val Met Val Glu Gly Val Phe His
         1540 1545
                                         1550
Thr Leu Trp His Thr Thr Lys Gly Ala Ala Leu Met Ser Gly Glu Gly
      1555 . 1560
                                      1565
Arg Leu Asp Pro Tyr Trp Gly Ser Val Lys Glu Asp Arg Leu Cys Tyr
   1570
                   1575
                                   1580
Gly Gly Pro Trp Lys Leu Gln His Lys Trp Asn Gly Gln Asp Glu Val
                                1595
                1590
Gln Met Ile Val Val Glu Pro Gly Lys Asn Val Lys Asn Val Gln Thr
                            1610
             1605
Lys Pro Gly Val Phe Lys Thr Pro Glu Gly Glu Ile Gly Ala Val Thr
         1620
                         1625
Leu Asp Phe Pro Thr Gly Thr Ser Gly Ser Pro Ile Val Asp Lys Asn
            1640
                                      1645
      1635
Gly Asp Val Ile Gly Leu Tyr Gly Asn Gly Val Ile Met Pro Asn Gly
                                   1660
                   1655
Ser Tyr Ile Ser Ala Ile Val Gln Gly Glu Arg Met Asp Glu Pro Ile
                               1675 1680
                1670
Pro Ala Gly Phe Glu Pro Glu Met Leu Arg Lys Lys Gln Ile Thr Val
             1685
                             1690
Leu Asp Leu His Pro Gly Ala Gly Lys Thr Arg Arg Ile Leu Pro Gln
                          1705
Ile Ile Lys Glu Ala Ile Asn Arg Arg Leu Arg Thr Ala Val Leu Ala
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1715		1720		1725
Pro Thr Arg Val 1730	Val Ala Ala 173	Glu Met Ala	Glu Ala I 1740	Leu Arg Gly Leu
Pro Ile Arg Tyr 1745	Gln Thr Ser 1750	Ala Val Pro	Arg Glu F 1755	His Asn Gly Asn 1760
Glu Ile Val Asp	Val Met Cys 1765	His Ala Thr 1770		His Arg Leu Met 1775
Ser Pro His Arg 178		Tyr Asn Leu 1785	Phe Val N	Met Asp Glu Ala 1790
His Phe Thr Asp 1795		1800		1805
Lys Val Glu Leu 1810	181.	5	1820	
Pro Gly Thr Ser 1825	Asp Pro Phe 1830	Pro Glu Ser	Asn Ser 1 1835	Pro Ile Ser Asp 1840
Leu Gln Thr Glu	1845	1850)	1855
Ile Thr Glu Tyr 186	0	1865		1870
Met Gly Asn Glu 1875		1880		1885
Val Gln Leu Asn 1890	189	5	1900	
Asn Asp Asp Trp 1905	1910		1915	1920
Ala Asn Phe Lys	1925	1930		1935
Pro Thr Ile Ile 194	0	1945		1950
Ser Ala Val Thr 1955		1960		1965
Arg Asn Pro Ser 1970	197	5	1980	
Asn Glu Asp Asp 1985	1990		1995	2000
Leu Asp Asn Ile	2005	2010)	2015
202	0	2025		Tyr Arg Leu Arg 2030
2035		2040		Thr Ala Asp Leu 2045
2050	205	5	2060	
2065	2070		2075	Thr Ile Leu Glu 2080
-	2085	2090	0	Glu Arg Lys Ile 2095
210	0	2105		Asp His Gln Ala 2110
2115		2120		Ser Gln Ile Gly 2125
2130	213	5	2140	
2145	2150		2155	Ala Glu Lys Gly 2160
Gly Arg Ala His	Arg Met Ala 2165	Leu Glu Glu 217		Asp Ala Leu Gln 2175

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Thr Ile Ala Leu Ile Ala Leu Leu Ser Val Met Thr Met Gly Val Phe
                           2185
                                            2190
          2180
Phe Leu Leu Met Gln Arg Lys Gly Ile Gly Lys Ile Gly Leu Gly Gly
                      2200
                                        2205
Ala Val Leu Gly Val Ala Thr Phe Phe Cys Trp Met Ala Glu Val Pro
                   2215
Gly Thr Lys Ile Ala Gly Met Leu Leu Leu Ser Leu Leu Met Ile
      2230
                       2235 2240
Val Leu Ile Pro Glu Pro Glu Lys Gln Arg Ser Gln Thr Asp Asn Gln
            2245 2250 2255
Leu Ala Val Phe Leu Ile Cys Val Met Thr Leu Val Ser Ala Val Ala
                          2265
          2260
Ala Asn Glu Met Gly Trp Leu Asp Lys Thr Lys Ser Asp Ile Ser Ser
                                         2285
                       2280
      2275
Leu Phe Gly Gln Arg Ile Glu Val Lys Glu Asn Phe Ser Met Gly Glu
                   2295
                                     2300
Phe Leu Leu Asp Leu Arg Pro Ala Thr Ala Trp Ser Leu Tyr Ala Val
                        2315
       2310
Thr Thr Ala Val Leu Thr Pro Leu Leu Lys His Leu Ile Thr Ser Asp
             2325
                    2330
Tyr Ile Asn Thr Ser Leu Thr Ser Ile Asn Val Gln Ala Ser Ala Leu
          2340 2345 2350
Phe Thr Leu Ala Arg Gly Phe Pro Phe Val Asp Val Gly Val Ser Ala
                      2360 2365
Leu Leu Ala Ala Gly Cys Trp Gly Gln Val Thr Leu Thr Val Thr
                    2375
                                     2380
Val Thr Ala Ala Thr Leu Leu Phe Cys His Tyr Ala Tyr Met Val Pro
                                  2395
                 2390
Gly Trp Gln Ala Glu Ala Met Arg Ser Ala Gln Arg Arg Thr Ala Ala
                              2410
                                               2415
             2405
Gly Ile Met Lys Asn Ala Val Val Asp Gly Ile Val Ala Thr Asp Val
         2420 2425
Pro Glu Leu Glu Arg Thr Thr Pro Ile Met Gln Lys Lys Val Gly Gln
       2435
                       2440
Ile Met Leu Ile Leu Val Ser Leu Ala Ala Val Val Asn Pro Ser
   2450
                    2455 2460
Val Lys Thr Val Arg Glu Ala Gly Ile Leu Ile Thr Ala Ala Ala Val
                2470
                                 2475 2480
Thr Leu Trp Glu Asn Gly Ala Ser Ser Val Trp Asn Ala Thr Thr Ala
             2485
                              2490
Ile Gly Leu Cys His Ile Met Arg Gly Gly Trp Leu Ser Cys Leu Ser
          2500
                           2505
                                            2510
Ile Thr Trp Thr Leu Ile Lys Asn Met Glu Lys Pro Gly Leu Lys Arg
                        2520
                                         2525
       2515
Gly Gly Ala Lys Gly Arg Thr Leu Gly Glu Val Trp Lys Glu Arg Leu
                   2535
                                     2540
Asn Gln Met Thr Lys Glu Glu Phe Thr Arg Tyr Arg Lys Glu Ala Ile
2545 2550
                                  2555 2560
Ile Glu Val Asp Arg Ser Ala Ala Lys His Ala Arg Lys Glu Gly Asn
             2565
                  2570
Val Thr Gly Gly His Pro Val Ser Arg Gly Thr Ala Lys Leu Arg Trp
                                2590
                           2585
          2580
Leu Val Glu Arg Arg Phe Leu Glu Pro Val Gly Lys Val Ile Asp Leu
                                         2605
                        2600
       2595
Gly Cys Gly Arg Gly Gly Trp Cys Tyr Tyr Met Ala Thr Gln Lys Arg
                     2615
Val Gln Glu Val Arg Gly Tyr Thr Lys Gly Gly Pro Gly His Glu Glu
```

2625	2630		2635	2640
Pro Gln Leu Va	l Gln Ser Tyr 2645	Gly Trp Asn 265		Met Lys Ser 2655
	60	2665		2670
Cys Asp Ile Gl 2675		2680	. 268	5
Thr Ile Arg Va 2690	l Leu Glu Met 269		Trp Leu His 2700	Arg Gly Pro
Arg Glu Phe Cy 2705	2710		2715	2720
Glu Lys Met Gl	2725	273	0	2735
	40	2745		2750
Ala Ser Gly As 2755		2760	276	5
Leu Gly Arg Me 2770	277.	5	2780	
Asp Val Asn Le 2785	2790		2795	2800
Asn Ser Asp Th	2805	281	0	2815
	320	2825		2830
Trp Asn Tyr Hi 2835		2840	284	5
Ser Leu Val As 2850	285	5	2860	
Ile Thr Asn Va 2865	2870		2875	2880
Gln Gln Arg Va	2885	. 289	0	2895
	900	2905		2910
Ala Phe Leu Al 2915	-	2920	292	5
Phe Ile Arg Ly 2930	. 293	5	2940	
Glu Gln Asn G 2945	2950		2955	2960
Phe Trp Glu M	2965	297	0	2975
	980	2985		2990
Gly Glu Phe G. 2995		3000	300	5
Leu Gly Ala A 3010	301	.5	3020	
Asp His Trp L 3025	3030	••	3035	3040
	ys Leu Gly Tyr 3045	305	50	3055
3	le Tyr Ala Asp 060	3065		3070
Thr Arg Ala A 3075	sp Leu Glu Asn	Glu Ala Lys 3080	Val Leu Glu 308	

Gly Glu His Arq Arq Leu Ala Arq Ala Ile Ile Glu Leu Thr Tyr Arg His Lys Val Val Lys Val Met Arg Pro Ala Ala Asp Gly Arg Thr Val Met Asp Val Ile Ser Arg Glu Asp Gln Arg Gly Ser Gly Gln Val Val Thr Tyr Ala Leu Asn Thr Phe Thr Asn Leu Ala Val Gln Leu Val Arg 3140 3145 Met Met Glu Gly Glu Gly Val Ile Gly Pro Asp Val Glu Lys Leu 3160 3165 Thr Lys Gly Lys Gly Pro Lys Val Arg Thr Trp Leu Phe Glu Asn Gly Glu Glu Arg Leu Ser Arg Met Ala Val Ser Gly Asp Asp Cys Val Val Lys Pro Leu Asp Asp Arg Phe Ala Thr Ser Leu His Phe Leu Asn Ala Met Ser Lys Val Arg Lys Asp Ile Gln Glu Trp Lys Pro Ser Thr Gly Trp Tyr Asp Trp Gln Gln Val Pro Phe Cys Ser Asn His Phe Thr Glu Leu Ile Met Lys Asp Gly Arg Thr Leu Val Val Pro Cys Arg Gly Gln Asp Glu Leu Val Gly Arg Ala Arg Ile Ser Pro Gly Ala Gly Trp Asn 3270 3275 Val Arg Asp Thr Ala Cys Leu Ala Lys Ser Tyr Ala Gln Met Trp Leu Leu Leu Tyr Phe His Arg Arg Asp Leu Arg Leu Met Ala Asn Ala Ile Cys Ser Ala Val Pro Val Asn Trp Val Pro Thr Gly Arg Thr Thr Trp Ser Ile His Ala Gly Gly Glu Trp Met Thr Thr Glu Asp Met Leu Glu Val Trp Asn Arg Val Trp Ile Glu Glu Asn Glu Trp Met Glu Asp Lys Thr Pro Val Glu Lys Trp Ser Asp Val Pro Tyr Ser Gly Lys Arg Glu Asp Ile Trp Cys Gly Ser Leu Ile Gly Thr Arg Ala Arg Ala Thr Trp Ala Glu Asn Ile Gln Val Ala Ile Asn Gln Val Arg Ala Ile Ile Gly Asp Glu Lys Tyr Val Asp Tyr Met Ser Ser Leu Lys Arg Tyr Glu Asp Thr Thr Leu Val Glu Asp Thr Val Leu

West Nile Virus - AF404756

 Met
 Ser
 Lys
 Lys
 Pro
 Gly
 Pro
 Gly
 Lys
 Lys
 Ser
 Ala
 Val
 Asn
 Met

 Leu
 Lys
 Arg
 Gly
 Met
 Pro
 Arg
 Val
 Leu
 Ser
 Leu
 Ile
 Gly
 Leu
 Ile
 Gly
 Leu
 Ile
 Arg
 Phe
 Val
 Ile
 Arg
 Phe
 Val
 Ile
 Ala
 Pro
 Thr
 Arg
 Ala
 Ile
 Ala
 Pro
 Ile
 Arg
 Phe
 Arg
 Phe
 Thr
 Ala
 Ile
 Ala
 Pro
 Thr
 Arg
 Ala
 Ile
 Ala
 Pro
 Thr
 Arg
 Ala
 Ala
 Ala
 Pro
 Arg
 Ala
 A

```
Leu Leu Ser Phe Lys Lys Glu Leu Gly Thr Leu Thr Ser Ala Ile Asn
Arg Arg Ser Ser Lys Gln Lys Lys Arg Gly Gly Lys Thr Gly Ile Ala
                               105
           100
Val Met Ile Gly Leu Ile Ala Ser Val Gly Ala Val Thr Leu Ser Asn
                           120
                                               125
Phe Gln Gly Lys Val Met Met Thr Val Asn Ala Thr Asp Val Thr Asp
                        135
Val Ile Thr Ile Pro Thr Ala Ala Gly Lys Asn Leu Cys Ile Val Arg
                   150
                                       155
Ala Met Asp Val Gly Tyr Met Cys Asp Asp Thr Ile Thr Tyr Glu Cys
                                   170
Pro Val Leu Ser Ala Gly Asn Asp Pro Glu Asp Ile Asp Cys Trp Cys
                                185
Thr Lys Ser Ala Val Tyr Val Arg Tyr Gly Arg Cys Thr Lys Thr Arg
        195
                            200
His Ser Arg Arg Ser Arg Arg Ser Leu Thr Val Gln Thr His Gly Glu
                       215
                                           220
Ser Thr Leu Ala Asn Lys Lys Gly Ala Trp Met Asp Ser Thr Lys Ala
                                       235
                   230
Thr Arg Tyr Leu Val Lys Thr Glu Ser Trp Ile Leu Arg Asn Pro Gly
                                   250
Tyr Ala Leu Val Ala Ala Val Ile Gly Trp Met Leu Gly Ser Asn Thr
                               265
           260
Met Gln Arg Val Val Phe Val Val Leu Leu Leu Val Ala Pro Ala
                            280
Tyr Ser Phe Asn Cys Leu Gly Met Ser Asn Arg Asp Phe Leu Glu Gly
                        295
                                            300
Val Ser Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys
                                        315
                    310
Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val Lys Met Met
               325
                                   330
Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr Cys Tyr Leu
            340
                                345
Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro Thr Met Gly
                            360
Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val Cys Arg Gln
                       375
                                           380
Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly LEU Phe Gly Lys
                    390
                                        395
Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr Lys Ala Ile
                                    410
Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val Ala Ile Phe
                                425
            420
Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Ser Thr Gln
                           440
Val Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                       455.
                                           460
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                   470
                                       475
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                485
                                   490
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                                505
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                            520
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
```

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535
                                           540
    530
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                                       555
                   550
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
               565
                                  570
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
                              585
           580
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
                          600
                                               605
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                       615
                                           620
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                    630
                                       635
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
               645
                                    650
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
           660
                               665
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                           680
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Leu Lys Gly
                       695
                                           700
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
                                       715
                   710
Val Gly Gly Val Phe Thr Ser Val Gly LYS Ala Val His Gln Val Phe
                                   730
Gly Gly Ala Phe Arg Leu Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
            740
                               745
Gly Leu Leu Gly Ala Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                            760
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Val Leu Leu Phe
                       775
                                           780
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                   790
                                .. 795
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
                                   810
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
           820
                                                   830
                               825
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
                           840
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ala Val Lys Asp
                        855
                                            860
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
                                        875
                    870
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
                                   890
Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
                               905
            900
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                            920
        915
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                        935
                                           940
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
                                        955
                    950
Lys Val Arg Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
                                    970
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                                985
            980
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Ile Glu Ser Arg Leu Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
           1000
                              1005
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
                   1015
                           1020
Asp Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
                                1035 1040
    1030
Pro Arg Ser Asn His Asn Arg Arg Pro Gly Tyr Lys Thr Gln Asn Gln
                             1050 1055
      1045
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
         1060 1065
                                          1070
Gly Thr Thr Val Thr Leu Ser Glu Ser Cys Gly His Arg Gly Pro Ala
                       1080
                                        1085
      1075
Thr Arg Thr Thr Glu Ser Gly Lys Leu Ile Thr Asp Trp Cys Cys
                                    1100
   1090
                    1095
Arg Ser Cys Thr Leu Pro Pro Leu Arg Tyr Gln Thr Asp Ser Gly Cys
                                1115
1105 1110
Trp Tyr Gly Met Glu Ile Arg Pro Gln Arg His Asp Glu Lys Thr Leu
             1125
                             1130
Val Gln Ser Gln Val Asn Ala Tyr Asn Ala Asp Met Ile Asp Pro Phe
         1140 1145
                                          1150
Gln Leu Gly Leu Leu Val Val Phe Leu Ala Thr Gln Glu Val Leu Arg
                                       1165
     1155 1160
Lys Arg Trp Thr Ala Lys Ile Ser Met Pro Ala Ile Leu Ile Ala Leu
                   1175
                                    1180
Leu Val Leu Val Phe Gly Gly Ile Thr Tyr Thr Asp Val Leu Arg Tyr
                1190
                                 1195
Val Ile Leu Val Gly Ala Ala Phe Ala Glu Ser Asn Ser Gly Gly Asp
                                               1215
             1205
                              1210
Val Val His Leu Ala Leu Met Ala Thr Phe Lys Ile Gln Pro Val Phe
                         1225
                                           1230
         1220
Met Val Ala Ser Phe Leu Lys Ala Arg Trp Thr Asn Gln Glu Asn Ile
                      1240
                                       1245
Leu Leu Met Leu Ala Ala Val Phe Phe Gln Met Ala Tyr His Asp Ala
   1250 1255 1260
Arg Gln Ile Leu Leu Trp Glu Ile Pro Asp Val Leu Asn Ser Leu Ala
1265 1270 . . 1275 1280
Val Ala Trp Met Ile Leu Arg Ala Ile Thr Phe Thr Thr Thr Ser Asn
             1285
                             1290
Val Val Pro Leu Leu Ala Leu Leu Thr Pro Gly Leu Arg Cys Leu
          1300
                           1305
                                           1310
Asn Leu Asp Val Tyr Arg Ile Leu Leu Leu Met Val Gly Ile Gly Ser
                       1320
                                        1325
      1315
Leu Ile Arg Glu Lys Arg Ser Ala Ala Ala Lys Lys Gly Ala Ser
                   1335
                                    1340
Leu Leu Cys Leu Ala Leu Ala Ser Thr Gly Leu Phe Asn Pro Met Ile
1345 1350
                                1355
Leu Ala Ala Gly Leu Ile Thr Cys Asp Pro Asn Arg Lys Arg Gly Trp
                             1370
                                              1375
             1365
Pro Ala Thr Glu Val Met Thr Ala Val Gly Leu Met Phe Ala Ile Val
                          1385
                                          1390
          1380
Gly Gly Leu Ala Glu Leu Asp Ile Asp Ser Met Ala Ile Pro Met Thr
      1395 1400
Ile Ala Gly Leu Met Phe Ala Ala Phe Val Ile Ser Gly Lys Ser Thr
                    1415
                                     1420
Asp Met Trp Ile Glu Arg Thr Ala Asp Ile Ser Trp Glu Ser Asp Ala
                 1430
                                 1435
Glu Ile Thr Gly Ser Ser Glu Arg Val Asp Val Arg Leu Asp Asp Asp
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	1445	1450	0	1455
Gly Asn Phe Gln 146		Asp Pro Gly 1465	Ala Pro Trp	Lys Ile Trp 1470
Met Leu Arg Met 1475	Val Cys Leu	Ala Ile Ser 1480	Ala Tyr Thr 1485	
Ile Leu Pro Ser 1490	Val Val Gly 149	-	Thr Leu Gln 1500	Tyr Thr Lys
Arg Gly Gly Val 1505	Leu Trp Asp 1510	Thr Pro Ser	Pro Lys Glu 1515	Tyr Lys Lys 1520
Gly Asp Thr Thr	1525	1530	0	1535
Gly Ser Tyr Gln 154	0	1545		1550
Thr Leu Trp His 1555		1560	1565	ò
Arg Leu Asp Pro 1570	157	5	1580	
Gly Gly Pro Trp 1585	1590		1595	1600
Gln Met Ile Val	1605	161	0	1.615
Lys Pro Gly Val 162	0	1625		1630
Leu Asp Phe Pro 1635		1640	1645	5
Gly Asp Val Ile 1650	165	5	1660	
Ser Tyr Ile Ser 1665	1670		1675	1680
Pro Ala Gly Phe	1685	169	0	1695
Leu Asp Leu His 170	0	1705		1710
Ile Ile Lys Glu 1715		1720	1725	5
Pro Thr Arg Val 1730	173	5	1740	
Pro Ile Arg Tyr 1745	1750		1755	1760
Glu Ile Val Asp	1765	177	0	1775
Ser Pro His Arg 178	0	1785		1790
His Phe Thr Asp 1795		1800	1805	5
Lys Val Glu Leu 1810	181	5	1820	
Pro Gly Thr Ser 1825	1830		1835	1840
Leu Gln Thr Glu	1845	185	0	1855
Ile Thr Glu Tyr 186	0	1865		1870
Met Gly Asn Glu 1875		1880	188	5
Val Gln Leu Asn 1890	Arg Lys Ser 189		Glu Tyr Pro 1900	Lys Cys Lys

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Asn Asp Asp Trp Asp Phe Val Ile Thr Thr Asp Ile Ser Glu Met Gly
      1910
                                  1915
1905
Ala Asn Phe Lys Ala Ser Arg Val Ile Asp Ser Arg Lys Ser Val Lys
                             1930
             1925
Pro Thr Ile Ile Thr Glu Gly Glu Gly Arg Val Ile Leu Gly Glu Pro
                          1945
          1940
Ser Ala Val Thr Ala Ala Ser Ala Ala Gln Arg Arg Gly Arg Ile Gly
                       1960
                                         1965
      1955
Arg Asn Pro Ser Gln Val Gly Asp Glu Tyr Cys Tyr Gly Gly His Thr
                   1975 1980
Asn Glu Asp Asp Ser Asn Phe Ala His Trp Thr Glu Ala Arg Ile Met
                       1995
                 1990
Leu Asp Asn Ile Asn Met Pro Asn Gly Leu Ile Ala Gln Phe Tyr Gln
                               2010
             2005
Pro Glu Arg Glu Lys Val Tyr Thr Met Asp Gly Glu Tyr Arg Leu Arg
                           2025
                                            2030
          2020
Gly Glu Glu Arg Lys Asn Phe Leu Glu Leu Leu Arg Thr Ala Asp Leu
                                        2045
       2035 2040
Pro Val Trp Leu Ala Tyr Lys Val Ala Ala Ala Gly Val Ser Tyr His
                                     2060
   2050 2055
Asp Arg Arg Trp Cys Phe Asp Gly Pro Arg Thr Asn Thr Ile Leu Glu
2065 2070
                                 2075 2080
Asp Asn Asn Glu Val Glu Val Ile Thr Lys Leu Gly Glu Arg Lys Ile
             2085
                             2090 2095
Leu Arg Pro Arg Trp Ile Asp Ala Arg Val Tyr Ser Asp His Gln Ala
          2100
                                2110
                           2105
Leu Lys Ala Phe Lys Asp Phe Ala Ser Gly Lys Arg Ser Gln Ile Gly
                                         2125
       2115
                        2120
Leu Ile Glu Val Leu Gly Lys Met Pro Glu His Phe Met Gly Lys Thr
                                      2140
                    2135
Trp Glu Ala Leu Asp Thr Met Tyr Val Val Ala Thr Ala Glu Lys Gly
      2150
                                 2155
Gly Arg Ala His Arg Met Ala Leu Glu Glu Leu Pro Asp Ala Leu Gln
             2165
                              2170
Thr Ile Ala Leu Ile Ala Leu Leu Ser Val Met Thr Met Gly Val Phe
          2180 2185
Phe Leu Leu Met Gln Arg Lys Gly Ile Gly Lys Ile Gly Leu Gly Gly
                       2200
                                         2205
Ala Val Leu Gly Val Ala Thr Phe Phe Cys Trp Met Ala Glu Val Pro
                     2215
                                     2220 ·
Gly Thr Lys Ile Ala Gly Met Leu Leu Leu Ser Leu Leu Met Ile
                 2230
                                  2235
Val Leu Ile Pro Glu Pro Glu Lys Gln Arg Ser Gln Thr Asp Asn Gln
                               2250
              2245
Leu Ala Val Phe Leu Ile Cys Val Met Thr Leu Val Ser Ala Val Ala
                           2265
          2260
Ala Asn Glu Met Gly Trp Leu Asp Lys Thr Lys Ser Asp Ile Ser Ser
                        2280
                                        2285
Leu Phe Gly Gln Arg Ile Glu Val Lys Glu Asn Phe Ser Met Gly Glu
                    2295
                                     2300
Phe Leu Leu Asp Leu Arg Pro Ala Thr Ala Trp Ser Leu Tyr Ala Val
                2310
                                  2315
Thr Thr Ala Val Leu Thr Pro Leu Leu Lys His Leu Ile Thr Ser Asp
                               2330
              2325
Tyr Ile Asn Thr Ser Leu Thr Ser Ile Asn Val Gln Ala Ser Ala Leu
                            2345
Phe Thr Leu Ala Arg Gly Phe Pro Phe Val Asp Val Gly Val Ser Ala
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2355		2360		2365	
Leu Leu Leu Ala 2370	Ala Gly Cys 237!		Val Thr 2380		Val Thr
Val Thr Ala Ala 2385	2390		2395		2400
Gly Trp Gln Ala	2405	241	0		2415
Gly Ile Met Lys	:0	2425		2430	
Pro Glu Leu Glu 2435		2440		2445	
Ile Met Leu Ile 2450	245	5 .	2460)	
Val Lys Thr Val 2465	2470		2475		2480
Thr Leu Trp Glu	2485	249	0		2495
Ile Gly Leu Cys 250	0	2505	-	2510)
Ile Thr Trp Thi 2515		2520		2525	
Gly Gly Ala Lys 2530	253	5	2540)	
Asn Gln Met Thi 2545	2550		2555		2560
Ile Glu Val Asp	2565	257	0		2575
Val Thr Gly Gly 258	30	2585		2590)
Leu Val Glu Arc 2595		2600		2605	
Gly Cys Gly Arc	261	.5	262	0	
Val Gln Glu Val 2625	2630		2635		2640
Pro Gln Leu Va	2645	265	0		2655
Gly Val Asp Va 26 Cys Asp Ile Gl	60	2665		2670)
2675		2680		2685	
Thr Ile Arg Va. 2690	269	5	270	0	
Arg Glu Phe Cy 2705	2710		2715		2720
Glu Lys Met Gl	2725	273	30		2735
Asn Pro Leu Se 27 Ala Ser Gly As	40	2745		2750)
2755 Leu Gly Arg Me		2760		2765	
2770 Asp Val Asn Le	277	75	278	0	
Asp val Ash Le 2785 Ash Ser Asp Th	2790		2795		2800
Ash set Asp Th	2805	281 281		Arg neu	2815

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Glu Tyr Ser Ser Thr Trp His His Asp Glu Asn His Pro Tyr Arg Thr
          2820
                          2825
                                           2830
Trp Asn Tyr His Gly Ser Tyr Asp Val Lys Pro Thr Gly Ser Ala Ser
                    2840
      2835
                                2845
Ser Leu Val Asn Gly Val Val Arg Leu Leu Ser Lys Pro Trp Asp Thr
                   2855 2860
Ile Thr Asn Val Thr Thr Met Ala Met Thr Asp Thr Thr Pro Phe Gly
                2870
                                 2875 2880
Gln Gln Arg Val Phe Lys Glu Lys Val Asp Thr Lys Ala Pro Glu Pro
            2885 2890
Pro Glu Gly Val Lys Tyr Val Leu Asn Glu Thr Thr Asn Trp Leu Trp
         2900 2905
                               2910
Ala Phe Leu Ala Arg Glu Lys Arg Pro Arg Met Cys Ser Arg Glu Glu
      2915
                       2920
                                        2925
Phe Ile Arg Lys Val Asn Ser Asn Ala Ala Leu Gly Ala Met Phe Glu
                    2935
                                     2940
Glu Gln Asn Gln Trp Arg Ser Ala Arg Glu Ala Val Glu Asp Pro Lys
                                 2955
                2950
Phe Trp Glu Met Val Asp Glu Glu Arg Glu Ala His Leu Arg Gly Glu
             2965
                             2970
Cys His Thr Cys Ile Tyr Asn Met Met Gly Lys Arg Glu Lys Lys Pro
         2980 2985 2990
Gly Glu Phe Gly Lys Ala Lys Gly Ser Arg Ala Ile Trp Phe Met Trp
                       3000
                                       3005
      2995
Leu Gly Ala Arg Phe Leu Glu Phe Glu Ala Leu Gly Phe Leu Asn Glu
                   3015
                                    3020
Asp His Trp Leu Gly Arg Lys Asn Ser Gly Gly Val Glu Gly Leu
                3030
                                 3035
Gly Leu Gln Lys Leu Gly Tyr Ile Leu Arg Glu Val Gly Thr Arg Pro
             3045
                              3050
Gly Gly Lys Ile Tyr Ala Asp Asp Thr Ala Gly Trp Asp Thr Arg Ile
                3065 3070
          3060
Thr Arg Ala Asp Leu Glu Asn Glu Ala Lys Val Leu Glu Leu Leu Asp
                       3080
Gly Glu His Arg Arg Leu Ala Arg Ala Ile Ile Glu Leu Thr Tyr Arg
   3090 3095
                                    3100
His Lys Val Val Lys Val Met Arg Pro Ala Ala Asp Gly Arg Thr Val
    3110
                                 3115
Met Asp Val Ile Ser Arg Glu Asp Gln Arg Gly Ser Gly Gln Val Val
             3125
                              3130
Thr Tyr Ala Leu Asn Thr Phe Thr Asn Leu Ala Val Gln Leu Val Arg
          3140
                           3145
                                            3150
Met Met Glu Gly Glu Gly Val Ile Gly Pro Asp Asp Val Glu Lys Leu
                       3160
       3155
                                        3165
Thr Lys Gly Lys Gly Pro Lys Val Arg Thr Trp Leu Phe Glu Asn Gly
                   3175
                                    3180
Glu Glu Arg Leu Ser Arg Met Ala Val Ser Gly Asp Asp Cys Val Val
                3190
                                 3195 3200
Lys Pro Leu Asp Asp Arg Phe Ala Thr Ser Leu His Phe Leu Asn Ala
                  3210 3215
             3205
Met Ser Lys Val Arg Lys Asp Ile Gln Glu Trp Lys Pro Ser Thr Gly
         3220
                          3225
                                           3230
Trp Tyr Asp Trp Gln Gln Val Pro Phe Cys Ser Asn His Phe Thr Glu
       3235
                       3240
Leu Ile Met Lys Asp Gly Arg Thr Leu Val Val Pro Cys Arg Gly Gln
                    3255
                                     3260
Asp Glu Leu Val Gly Arg Ala Arg Ile Ser Pro Gly Ala Gly Trp Asn
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3265 3270 3275 Val Arg Asp Thr Ala Cys Leu Ala Lys Ser Tyr Ala Gln Met Trp Leu 3285 3290 Leu Leu Tyr Phe His Arg Arg Asp Leu Arg Leu Met Ala Asn Ala Ile 3300 3305 Cys Ser Ala Val Pro Val Asn Trp Val Pro Thr Gly Arg Thr Thr Trp 3320 Ser Ile His Ala Gly Gly Glu Trp Met Thr Thr Glu Asp Met Leu Glu 3335 3340 Val Trp Asn Arg Val Trp Ile Glu Glu Asn Glu Trp Met Glu Asp Lys 3350 . 3355 Thr Pro Val Glu Lys Trp Ser Asp Val Pro Tyr Ser Gly Lys Arg Glu 3365 3370 Asp Ile Trp Cys Gly Ser Leu Ile Gly Thr Arg Ala Arg Ala Thr Trp 3385 3390 3380 Ala Glu Asn Ile Gln Val Ala Ile Asn Gln Val Arg Ala Ile Ile Gly 3395 3400 3405 Asp Glu Lys Tyr Val Asp Tyr Met Ser Ser Leu Lys Arg Tyr Glu Asp 3415 3420 Thr Thr Leu Val Glu Asp Thr Val Leu 3430

West Nile Virus - AF404757

Met Ser Lys Lys Pro Gly Gly Pro Gly Lys Ser Arg Ala Val Asn Met 10 Leu Lys Arg Gly Met Pro Arg Val Leu Ser Leu Ile Gly Leu Lys Arg 20 Ala Met Leu Ser Leu Ile Asp Gly Lys Gly Pro Ile Arg Phe Val Leu 40 Ala Leu Leu Ala Phe Phe Arg Phe Thr Ala Ile Ala Pro Thr Arg Ala 55 Val Leu Asp Arg Trp Arg Gly Val Asn Lys Gln Thr Ala Met Lys His Leu Leu Ser Phe Lys Lys Glu Leu Gly Thr Leu Thr Ser Ala Ile Asn 90 Arg Arg Ser Ser Lys Gln Lys Lys Arg Gly Gly Lys Thr Gly Ile Ala 100 105 Val Met Ile Gly Leu Ile Ala Ser Val Gly Ala Val Thr Leu Ser Asn 115 120 Phe Gln Gly Lys Val Met Met Thr Val Asn Ala Thr Asp Val Thr Asp 135 140 Val Ile Thr Ile Pro Thr Ala Ala Gly Lys Asn Leu Cys Ile Val Arg 150 155 Ala Met Asp Val Gly Tyr Met Cys Asp Asp Thr Ile Thr Tyr Glu Cys 165 170 Pro Val Leu Ser Ala Gly Asn Asp Pro Glu Asp Ile Asp Cys Trp Cys 185 Thr Lys Ser Ala Val Tyr Val Arg Tyr Gly Arg Cys Thr Lys Thr Arg 200 His Ser Arg Arg Ser Arg Arg Ser Leu Thr Val Gln Thr His Gly Glu 215 220 Ser Thr Leu Ala Asn Lys Lys Gly Ala Trp Met Asp Ser Thr Lys Ala 230 Thr Arg Tyr Leu Val Lys Thr Glu Ser Trp Ile Leu Arg Asn Pro Gly 250 Tyr Ala Leu Val Ala Ala Val Ile Gly Trp Met Leu Gly Ser Asn Thr

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265
Met Gln Arg Val Val Phe Val Val Leu Leu Leu Val Ala Pro Ala
                            280
Tyr Ser Phe Asn Cys Leu Gly Met Ser Asn Arg Asp Phe Leu Glu Gly
                        295
                                            300
Val Ser Gly Ala Thr Trp Val Asp Leu Val Leu Glu Gly Asp Ser Cys
                   310
                                       315
Val Thr Ile Met Ser Lys Asp Lys Pro Thr Ile Asp Val Lys Met Met
               325
                                    330
Asn Met Glu Ala Ala Asn Leu Ala Glu Val Arg Ser Tyr Cys Tyr Leu
                               345
Ala Thr Val Ser Asp Leu Ser Thr Lys Ala Ala Cys Pro Thr Met Gly
                           360
Glu Ala His Asn Asp Lys Arg Ala Asp Pro Ala Phe Val Cys Arg Gln
                        375
Gly Val Val Asp Arg Gly Trp Gly Asn Gly Cys Gly LEU Phe Gly Lys
                    390
                                        395
Gly Ser Ile Asp Thr Cys Ala Lys Phe Ala Cys Ser Thr Lys Ala Thr
                405
                                    410
Gly Arg Thr Ile Leu Lys Glu Asn Ile Lys Tyr Glu Val Ala Ile Phe
                                425
Val His Gly Pro Thr Thr Val Glu Ser His Gly Asn Tyr Ser Thr Gln
       435
                            440
                                                445
Ile Gly Ala Thr Gln Ala Gly Arg Phe Ser Ile Thr Pro Ala Ala Pro
                       455
                                           460
Ser Tyr Thr Leu Lys Leu Gly Glu Tyr Gly Glu Val Thr Val Asp Cys
                   470
                                       475
Glu Pro Arg Ser Gly Ile Asp Thr Asn Ala Tyr Tyr Val Met Thr Val
                485
                                    490
Gly Thr Lys Thr Phe Leu Val His Arg Glu Trp Phe Met Asp Leu Asn
                                505
Leu Pro Trp Ser Ser Ala Gly Ser Thr Val Trp Arg Asn Arg Glu Thr
                            520
                                                525
Leu Met Glu Phe Glu Glu Pro His Ala Thr Lys Gln Ser Val Ile Ala
                       535
Leu Gly Ser Gln Glu Gly Ala Leu His Gln Ala Leu Ala Gly Ala Ile
                   550
                                       555
Pro Val Glu Phe Ser Ser Asn Thr Val Lys Leu Thr Ser Gly His Leu
                                    570
                565
Lys Cys Arg Val Lys Met Glu Lys Leu Gln Leu Lys Gly Thr Thr Tyr
           580
                               585
Gly Val Cys Ser Lys Ala Phe Lys Phe Leu Gly Thr Pro ALA Asp Thr
                                                605 L
                            600
Gly His Gly Thr Val Val Leu Glu Leu Gln Tyr Thr Gly Thr Asp Gly
                        615
Pro Cys Lys Val Pro Ile Ser Ser Val Ala Ser Leu Asn Asp Leu Thr
                    630
                                        635
Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val Ser Val Ala Thr
               645
                                    650
Ala Asn Ala Lys Val Leu Ile Glu Leu Glu Pro Pro Phe Gly Asp Ser
                                665
Tyr Ile Val Val Gly Arg Gly Glu Gln Gln Ile Asn His His Trp His
                            680
                                                685
Lys Ser Gly Ser Ser Ile Gly Lys Ala Phe Thr Thr Leu Lys Gly
                        695
                                            700
Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp Asp Phe Gly Ser
                    710
                                        715
                                                            720
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Val Gly Gly Val Phe Thr Ser Val Gly LYS Ala Val His Gln Val Phe
Gly Gly Ala Phe Arg Ser Leu Phe Gly Gly Met Ser Trp Ile Thr Gln
                              745
Gly Leu Leu Gly Ala Leu Leu Leu Trp Met Gly Ile Asn Ala Arg Asp
                          760
Arg Ser Ile Ala Leu Thr Phe Leu Ala Val Gly Val Leu Leu Phe
                      775
Leu Ser Val Asn Val His Ala Asp Thr Gly Cys Ala Ile Asp Ile Ser
                  790
                                      795
Arg Gln Glu Leu Arg Cys Gly Ser Gly Val Phe Ile His Asn Asp Val
              805
                                 810
Glu Ala Trp Met Asp Arg Tyr Lys Tyr Tyr Pro Glu Thr Pro Gln Gly
                             825
Leu Ala Lys Ile Ile Gln Lys Ala His Lys Glu Gly Val Cys Gly Leu
       835
                          840
Arg Ser Val Ser Arg Leu Glu His Gln Met Trp Glu Ser Val Lys Asp
                      855
Glu Leu Asn Thr Leu Leu Lys Glu Asn Gly Val Asp Leu Ser Val Val
                                     875
                  870
Val Glu Lys Gln Glu Gly Met Tyr Lys Ser Ala Pro Lys Arg Leu Thr
              885
                                 890
Ala Thr Thr Glu Lys Leu Glu Ile Gly Trp Lys Ala Trp Gly Lys Ser
           900
                           905
                                                910
Ile Leu Phe Ala Pro Glu Leu Ala Asn Asn Thr Phe Val Val Asp Gly
                                             925
                          920
Pro Glu Thr Lys Glu Cys Pro Thr Gln Asn Arg Ala Trp Asn Ser Leu
                      935
Glu Val Glu Asp Phe Gly Phe Gly Leu Thr Ser Thr Arg Met Phe Leu
                   950
                                      955
Lys Val Arg Glu Ser Asn Thr Thr Glu Cys Asp Ser Lys Ile Ile Gly
                                  970
Thr Ala Val Lys Asn Asn Leu Ala Ile His Ser Asp Leu Ser Tyr Trp
                              985
           980
Ile Glu Ser Arg Leu Asn Asp Thr Trp Lys Leu Glu Arg Ala Val Leu
                         1000
                                             1005
Gly Glu Val Lys Ser Cys Thr Trp Pro Glu Thr His Thr Leu Trp Gly
                     1015 1020
Asp Gly Ile Leu Glu Ser Asp Leu Ile Ile Pro Val Thr Leu Ala Gly
                  1030
                                     1035 1040
Pro Arg Ser Asn His Asn Arg Arg Pro Gly Tyr Lys Thr Gln Asn Gln
               1045
                                 1050
Gly Pro Trp Asp Glu Gly Arg Val Glu Ile Asp Phe Asp Tyr Cys Pro
                              1065 .
           1060
                                                 1070
Gly Thr Thr Val Thr Leu Ser Glu Ser Cys Gly His Arg Gly Pro Ala
                          1080
                                             1085
Thr Arg Thr Thr Glu Ser Gly Lys Leu Ile Thr Asp Trp Cys Cys
                      1095
                                         1100
Arg Ser Cys Thr Leu Pro Pro Leu Arg Tyr Gln Thr Asp Ser Gly Cys
                                     1115 1120
                  1110
Trp Tyr Gly Met Glu Ile Arg Pro Gln Arg His Asp Glu Lys Thr Leu
               1125
                       1130
Val Gln Ser Gln Val Asn Ala Tyr Asn Ala Asp Met Ile Asp Pro Phe
           1140
                             1145
Gln Leu Gly Leu Leu Val Val Phe Leu Ala Thr Gln Glu Val Leu Arg
                          1160
Lys Arg Trp Thr Ala Lys Ile Ser Met Pro Ala Ile Leu Ile Ala Leu
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1170		1175		1180)	
Leu Val Leu V 1185	al Phe Gly 1190			Thr Asp 1195	Val Leu	Arg Tyr 1200
Val Ile Leu V	Val Gly Ala 1205	Ala Phe		Ser Asn		Gly Asp 1215
Val Val His I 1	eu Ala Leu .220	Met Ala	Thr Phe 1225	Lys Ile	Gln Pro 123	
Met Val Ala S 1235.		Lys Ala 1240		Thr Asn	Gln Glu 1245	Asn Ile
Leu Leu Met I 1250	Seu Ala Ala	Val Phe 1255	Phe Gln	Met Ala 1260		Asp Ala
Arg Gln Ile I 1265	Leu Leu Trp 1270			Val Leu 1275	Asn Ser	Leu Ala 1280
Val Ala Trp M	Met Ile Leu 1285	Arg Ala	Ile Thr 1290		Thr Thr	Ser Asn 1295
	L300		1305		131	0
Asn Leu Asp V 1315		1320	, ·		1325	
Leu Ile Arg 0 1330		1335		1340)	
Leu Leu Cys I 1345	1350)		1355		1360
Leu Ala Ala G	1365		1370			1375
	L380		1385		139	0 .
Gly Gly Leu A		1400)		1405	
Ile Ala Gly I 1410		1415		1420)	
Asp Met Trp 1	1430) ,		1435		1440
Glu Ile Thr	1445		1450)		1455
	L460	_	1465		147	0
Met Leu Arg N 1475		1480)		1485	
Ile Leu Pro S 1490		1495		1500)	
Arg Gly Gly V	1510)		1515		1520
Gly Asp Thr	1525		1530)		1535
	1540		1545		155	0
Thr Leu Trp F		1560)		1565	
Arg Leu Asp I 1570		1575	-	1580)	
Gly Gly Pro 5	1590)		1595		1600
Gln Met Ile V	1605	_	1610)		1615
Lys Pro Gly \	Val Phe Lys 1620	Thr .Pro	Glu Gly 1625	GIU Ile	Gly Ala 163	

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Leu Asp Phe Pro Thr Gly Thr Ser Gly Ser Pro Ile Val Asp Lys Asn
                      1640
                                       1645
      1635
Gly Asp Val Ile Gly Leu Tyr Gly Asn Gly Val Ile Met Pro Asn Gly
                   1655
                                    1660
Ser Tyr Ile Ser Ala Ile Val Gln Gly Glu Arg Met Asp Glu Pro Ile
      1670
                                1675 1680
Pro Ala Gly Phe Glu Pro Glu Met Leu Arg Lys Lys Gln Ile Thr Val
                            1690
            1685
Leu Asp Leu His Pro Gly Ala Gly Lys Thr Arg Arg Ile Leu Pro Gln
         1700 1705 1710
Ile Ile Lys Glu Ala Ile Asn Arg Arg Leu Arg Thr Ala Val Leu Ala
      1715 1720
                                      1725
Pro Thr Arg Val Val Ala Ala Glu Met Ala Glu Ala Leu Arg Gly Leu
                  1735
                                   1740
Pro Ile Arg Tyr Gln Thr Ser Ala Val Thr Arg Glu His Asn Gly Asn
                1750
                                1755
                                      .
Glu Ile Val Asp Val Met Cys His Ala Thr Leu Thr His Arg Leu Met
             1765
                             1770
Ser Pro His Arg Val Pro Asn Tyr Asn Leu Phe Val Met Asp Glu Ala
                         1785
         1780
His Phe Thr Asp Pro Ala Ser Ile Ala Ala Arg Gly Tyr Ile Ser Thr
      1795 1800
                                      1805
Lys Val Glu Leu Gly Glu Ala Ala Ala Ile Phe Met Thr Ala Thr Pro
       1815 1820
Pro Gly Thr Ser Asp Pro Phe Pro Glu Ser Asn Ser Pro Ile Ser Asp
     1830 1835 1840
Leu Gln Thr Glu Ile Pro Asp Arg Ala Trp Asn Ser Gly Tyr Glu Trp
             1845
                             1850
Ile Thr Glu Tyr Ile Gly Lys Thr Val Trp Phe Val Pro Ser Val Lys
         1860
                          1865
                                           1870
Met Gly Asn Glu Ile Ala Leu Cys Leu Gln Arg Ala Gly Lys Lys Val
      1875 ... 1880
                                       1885
Val Gln Leu Asn Arg Lys Ser Tyr Glu Thr Glu Tyr Pro Lys Cys Lys
   1890 1895
                                   1900
Asn Asp Asp Trp Asp Phe Val Ile Thr Thr Asp Ile Ser Glu Met Gly
                                1915 1920
1905 1910
Ala Asn Phe Lys Ala Ser Arg Val Ile Asp Ser Arg Lys Ser Val Lys
            1925
                             1930
                                             1935
Pro Thr Ile Ile Thr Glu Gly Glu Gly Arg Val Ile Leu Gly Glu Pro
         1940
                          1945
                                          1950
Ser Ala Val Thr Ala Ala Ser Ala Ala Gln Arg Arg Gly Arg Ile Gly
                      1960
                                       1965
Arg Asn Pro Ser Gln Val Gly Asp Glu Tyr Cys Tyr Gly Gly His Thr
                   1975
                                    1980
Asn Glu Asp Asp Ser Asn Phe Ala His Trp Thr Glu Ala Arg Ile Met
                                1995
                1990
Leu Asp Asn Ile Asn Met Pro Asn Gly Leu Ile Ala Gln Phe Tyr Gln
             2005
                            2010
Pro Glu Arg Glu Lys Val Tyr Thr Met Asp Gly Glu Tyr Arg Leu Arg
         2020
                         2025
                                          2030
Gly Glu Glu Arg Lys Asn Phe Leu Glu Leu Leu Arg Thr Ala Asp Leu
           2040
      2035
                                      2045
Pro Val Trp Leu Ala Tyr Lys Val Ala Ala Ala Gly Val Ser Tyr His
                   2055
                                   2060
Asp Arg Arg Trp Cys Phe Asp Gly Pro Arg Thr Asn Thr Ile Leu Glu
                2070
                                 2075
Asp Asn Asn Glu Val Glu Val Ile Thr Lys Leu Gly Glu Arg Lys Ile
```

	208	5			2090)				2095	5
Leu Arg Pro	Arg Trp 2100	Ile A	sp Ala	Arg 2105		Tyr	Ser	Asp	His 2110		Ala
Leu Lys Ala 2115		Asp P	he Ala 2120		Gly	Lys	Arg	Ser 2125		Ile	Gly
Leu Ile Glu 2130	Val Leu		ys Met 135	Pro	Glu	His	Phe 2140		Gly	Lys	Thr
Trp Glu Ala 2145	Leu Asp	Thr M	et Tyr	Val	Val	Ala 2155		Ala	Glu	_	Gly 2160
Gly Arg Ala	His Arg 216		la Leu	Glu	Glu 2170		Pro	Asp	Ala	Leu 2175	
Thr Ile Ala	Leu Ile 2180	Ala L	eu Leu	Ser 2185		Met	Thr	Met	Gly 2190		Phe
Phe Leu Leu 2195		Arg L	ys Gly 2200		Gly	Lys	Ile	Gly 2205		Gly	Gly
Val Val Leu 2210	Gly Val		hr Phe 215	Phe	Cys	Trp	Met 2220		Glu	Val	Pro
Gly Thr Lys 2225	Ile Ala	Gly M 2230	et Leu	Leu	Leu	Ser 2235		Leu	Leu		Ile 2240
Val Leu Ile	Pro Glu 224		lu Lys	Gln	Arg 2250		Gln	Thr	Asp	Asn 2255	
Leu Ala Val	Phe Leu 2260	Ile C	ys Val	Met 2265		Leu	Val	Ser	Ala 2270	_	Ala
Ala Asn Glu 2275	_	Trp L	eu Asp 2280	_	Thr	Lys	Ser	Asp 2285		Ser	Ser
Leu Phe Gly 2290	Gln Arg		lu Val 295	Lys	Glu	Asn	Phe 2300		Met	Gly	Glu
Phe Leu Leu 2305	Asp Leu	Arg P. 2310	ro Ala	Thr	Ala	Trp 2315		Leu	Tyr		Val 2320
Thr Thr Ala	Val Leu 232		ro Leu	Leu	Lys 2330		Leu	Ile	Thr	Ser 2335	
Tyr Ile Asn	Thr Ser 2340	Leu T	hr Ser	Ile 2345		Val	Gln	Ala	Ser 2350		Leu
Phe Thr Leu 2355	5		2360)				2365	5		
Leu Leu Leu 2370		2	375				2380)			
Val Thr Ala 2385		2390				2395	5	_		2	2400
Gly Trp Gln	240	5			2410)	_	_		2415	5
Gly Ile Met	2420			2425	5				2430)	
Pro Glu Leu 2435	_	Thr T	hr Pro 2440		Met	Gln	Lys	Lys 2445		Gly	Gln
Ile Met Leu 2450	Ile Leu		er Leu 455	Ala	Ala	Val	Val 2460		Asn	Pro	Ser
Val Lys Thr 2465		2470				2475	5			2	2480
Thr Leu Trp	248	5			2490)				2495	5
Ile Gly Leu	2500			2505	5				2510)	
Ile Thr Trp 2515	5		2520	0				2525	ō		
Gly Gly Ala 2530	Lys Gly	-	hr Leu 535	Gly	Glu	Val	Trp 2540		Glu	Arg	Leu

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Asn Gln Met Thr Lys Glu Glu Phe Thr Arg Tyr Arg Lys Glu Ala Ile
               2550
                                2555
Ile Glu Val Asp Arg Ser Ala Ala Lys His Ala Arg Lys Glu Gly Asn
             2565
                             2570
                                             2575
Val Thr Gly Gly His Pro Val Ser Arg Gly Thr Ala Lys Leu Arg Trp
         2580
                         2585
Leu Val Glu Arg Arg Phe Leu Glu Pro Val Gly Lys Val Ile Asp Leu
      2595 2600
Gly Cys Gly Arg Gly Gly Trp Cys Tyr Tyr Met Ala Thr Gln Lys Arg
                  2615
                                   2620
Val Gln Glu Val Arg Gly Tyr Thr Lys Gly Gly Pro Gly His Glu Glu
    2630 2635 2640
Pro Gln Leu Val Gln Ser Tyr Gly Trp Asn Ile Val Thr Met Lys Ser
            2645 2650 2655
Gly Val Asp Val Phe Tyr Arg Pro Ser Glu Cys Cys Asp Thr Leu Leu
         2660
                         2665
                                         2670
Cys Asp Ile Gly Glu Ser Ser Ser Ala Glu Val Glu His Arg
      2675
                      2680
                                      2685
Thr Ile Arg Val Leu Glu Met Val Glu Asp Trp Leu His Arg Gly Pro
                  2695
                                  2700
Arg Glu Phe Cys Val Lys Val Leu Cys Pro Tyr Met Pro Lys Val Ile
                      2715
     2710
Glu Lys Met Glu Leu Leu Gln Arg Arg Tyr Gly Gly Leu Val Arg
          2725 2730 2735
Asn Pro Leu Ser Arg Asn Ser Thr His Glu Met Tyr Trp Val Ser Arg
        2740 2745 2750
Ala Ser Gly Asn Val Val His Ser Val Asn Met Thr Ser Gln Val Leu
      2755 2760 2765
Leu Gly Arg Met Glu Lys Arg Thr Trp Lys Gly Pro Gln Tyr Glu Glu
                   2775
                                   2780
Asp Val Asn Leu Gly Ser Gly Thr Arg Ala Val Gly Lys Pro Leu Leu
               2790
                                2795
Asn Ser Asp Thr Ser Lys Ile Lys Asn Arg Ile Glu Arg Leu Arg Arg
            2805
                            2810
Glu Tyr Ser Ser Thr Trp His His Asp Glu Asn His Pro Tyr Arg Thr
         2820
                         2825
Trp Asn Tyr His Gly Ser Tyr Asp Val Lys Pro Thr Gly Ser Ala Ser
      2835
                     2840
                                      2845
Ser Leu Val Asn Gly Val Val Arg Leu Leu Ser Lys Pro Trp Asp Thr
                  2855 2860
Ile Thr Asn Val Thr Thr Met Ala Met Thr Asp Thr Thr Pro Phe Gly
2865 2870
                               2875
Gln Gln Arg Val Phe Lys Glu Lys Val Asp Thr Lys Ala Pro Glu Pro
                             2890
             2885
Pro Glu Gly Val Lys Tyr Val Leu Asn Glu Thr Thr Asn Trp Leu Trp
                         2905
                                          2910
Ala Phe Leu Ala Arg Glu Lys Arg Pro Arg Met Cys Ser Arg Glu Glu
                      2920
                                     2925
Phe Ile Arg Lys Val Asn Ser Asn Ala Ala Leu Gly Ala Met Phe Glu
                  2935
                                   2940
Glu Gln Asn Gln Trp Arg Ser Ala Arg Glu Ala Val Glu Asp Pro Lys
2945 2950 2955
Phe Trp Glu Met Val Asp Glu Glu Arg Glu Ala His Leu Arg Gly Glu
            2965
                            2970
Cys His Thr Cys Ile Tyr Asn Met Met Gly Lys Arg Glu Lys Lys Pro
                         2985
Gly Glu Phe Gly Lys Ala Lys Gly Ser Arg Ala Ile Trp Phe Met Trp
```

		2995	5				3000)				3005	5		
Leu	Gly 3010		Arg	Phe	Leu	Glu 3015	Phe		Ala	Leu	Gly 3020	Phe		Asn	Glu
Asp 3025		Trp	Leu	Gly	Arg 3030		Asn	Ser	Gly	Gly 303	-	Val	Glu	_	Leu 3040
Gly	Leu	Gln	Lys	Leu 3045		Tyr	Ile	Leu	Arg 3050		Val	Gly	Thr	Arg 3055	
Gly	Gly	Lys	Ile 3060		Ala	Asp	Asp	Thr 3069		Gly	Trp	Asp	Thr 3070		Ile
Thr	Arg	Ala 3075	Asp	Leu	Glu	Asn	Glu 3080		Lys	Val	Leu	Glu 3085		Leu	Asp
Gly	Glu 3090		Arg	Arg	Leu	Ala 3095		Ala	Ile	Ile	Glu 3100		Thr	Tyr	Arg
3105	5		Val		3110)	_			3115	5	_		3	3120
Met	Asp	Val	Ile	Ser 3125		Glu	Asp	Gln	Arg 3130		Ser	Gly	Gln	Val 3135	
Thr	Tyr	Ala	Leu 3140		Thr	Phe	Thr	Asn 3145		Ala	Val	Gln	Leu 3150		Arg
Met	Met	Glu 3155	Gly 5	Glu	Gly	Val	Ile 3160		Pro	Asp	Asp	Val 3165		Lys	Leu
	3170)	Lys			3175	5.	_		_	3180)			_
3185	5		Leu		3190)				3195	5	-	-	3	3200
			Asp	3205	5				3210)				3215	5
Met	Ser	Lys	Val 3220		Lys	Asp	Ile	Gln 3225		Trp	Lys	Pro	Ser 3230		Gly
Trp	Tyr	Asp 3235	Trp	Gln	Gln	Val	Pro 3240		Cys	Ser	Asn	His 3245		Thr	Glu
	3250)	Lys			3255	5				3260)	_	-	
3265	5		Val		3270)				3275	5		_	_ 3	3280
Val	Arg	Asp	Thr	Ala 3285		Leu	Ala	Lys	Ser 3290		Ala	Gln	Met	Trp 3295	
Leu	Leu	Tyr	Phe 3300		Arg	Arg	Asp	Leu 3305		Leu	Met	Ala	Asn 3310		Ile
		3315					3320)			_	3325	5		_
	3330)	Ala			3335	5				3340)			
3345	5		Arg		3350)				3355	5			3	3360
Thr	Pro	Val	Glu	Lys 3365		Ser	Asp	Val	Pro 3370		Ser	Gly	Lys	Arg 3375	
Asp	Ile	Trp	Cys 3380		Ser	Leu	Ile	Gly 3385		Arg	Ala	Arg	Ala 3390		Trp
Ala	Glu	Asn 3395	Ile	Gln	Val	Ala	Ile 3400		Gln	Val	Arg	Ala 3405		Ile	Gly
Asp	Glu 3410		Tyr	Val	Asp	Tyr 3415		Ser	Ser	Leu	Lys 3420		Tyr	Glu	Asp
Thr 3425		Leu	Val	Glu	Asp 3430		Val	Leu							